City of Norfolk, VA
Dredging, Beach Nourishment and Stormwater Outfall Extensions

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Narrative

Background

The City of Norfolk, VA is seeking a permit to nourish the shoreline of Ocean View Beach. This permit will include dredging for borrow material and pumping it to the shoreline. Two borrow areas are proposed at Willoughby Bank and Thimble Shoal Channel. The beach fill template is based on the minimum efficient placement rates for hydraulically placed beach fills, with providing a sufficient protective dune and berm for storm protection.

Due to the additional beach fill, twelve existing stormwater outfalls require extensions to prevent shoaling at the pipe ends. The twelve outfalls are listed below in Table 1. There will be no increase in flow through the outfalls, or modification to any drainage areas.

Note that this permit application follows a pre-application meeting with regulatory agencies in January 2006. Meeting minutes are attached to this JPA as an appendix. At that meeting the City of Norfolk's need for borrow areas for future beach nourishment projects along its Ocean View shoreline was discussed. It was shown that suitable material in the Thimble Shoal Channel, within the federal channel limits, has been reduced by recent projects, and other potential borrow sources need to be identified.

Beach Fill

The City seeks to nourish approximately 7.2 miles of shoreline at Ocean View. This is proposed to be completed using beach quality sand dredged and placed hydraulically. The purpose of the project is to abate a chronic shoreline erosion problem, increase protection to public and private property, provide storm protection, and restore the public beach.

Borrow Areas

The study mentioned above, involved a thorough literature review to identify existing sediment data for the area of interest. Relevant data were then analyzed, compiled in a GIS database, and potential sediment areas mapped. The GIS database was used to identify and evaluate potential sediment areas in terms of proximity to Ocean View, potential volume of material available, and compatibility of material with native material along Ocean View.

Based on this study, and vibracore data collected since, two borrow areas are proposed for this project and include and area at Willoughby Bank and an area to the north of the Thimble Shoal Channel. These areas are approximately 530 acres and 550 acres, respectively. The combined amount of available material from these areas is 25,161,000 +/- cubic yards and the complete beach nourishment project only requires 2,366,000 +/- cubic yards. The goal of the permit is to allow maximum flexibility to the City for future beach nourishment and dune restoration projects. Having both areas permitted would avoid impacts during time of year restrictions (i.e. turtles and crabs). Flexibility is also to allow the City to take advantage of the potential to use either a hopper dredge or cutterhead at Willoughby Bank.

Schedule
The application seeks authorization to obtain beach fill from the above mentioned borrow areas and maintain the desired beach area through periodic renourishments as the budget allows. The City will complete individual smaller projects over time and would not complete the entire 2.4 million cubic yard project at once given budgetary constraints. Planting vegetation for stabilization will be started as soon as practical after construction.

Construction
During placement of the hydraulic fill, temporary berms will be used to encourage settling to limit discharge of fines to waterway.

Table 1 - Outfalls to be extended

Site No.	Location (West to East Ocean View):	Activity:	Approx. Length of Extension Included in This Permit:
#1	15th View St.	Pipe extension – single 24"F ductile iron (DI) pipe with new manhole	252 ft
#2 & #3	1st View St.	Pipe extensions – two 20"F DI pipes	108 ft each
#4	Ocean View Park	Pipe extension – single 48"F DI pipe	108 ft
#5 & #6	West of Pinewell	Pipe extensions – 36"F and 48"F DI pipes.	144 ft each
#7	Elnora St.	Pipe extension – single 20"F DI pipe with new manhole	108 ft
#8	Chesapeake. St.	Pipe extension – single 20"F DI pipe with new manhole	126 ft
#9	Beaumont St.	Pipe extension – single 24"F DI pipe with new manhole	108 ft
#10	Grove Ave.	Pipe extension – single 36"F DI pipe with new manhole	90 ft
#11	1st Bay St.	Pipe extension – single 24"F DI pipe	126 ft
#12	27th Bay Street	Pipe extension – single 20"F DI pipe	126 ft

JOINT PERMIT APPLICATION

United States Army Corps of Engineers (USACE)
Norfolk District
803 Front Street, ATTN: CENAO-TS-REG
Norfolk, Virginia 23510-1096
Phone: (757) 201-7652, Fax: (757) 201-7678
Websites: http://www.nao.usace.army.mil/regulatory/regulatory.html
http://www.nao.usace.army.mil/Regulatory/varegions.htm

Virginia Marine Resources Commission (VMRC)
Habitat Management Division
2600 Washington Avenue, 3rd Floor
Newport News, Virginia 23607-0756
Phone: (757) 247-2200, Fax: (757) 247-8062
Website: http://www.mrc.virginia.gov/index.htm

Virginia Department of Environmental Quality (DEQ)
Virginia Water Protection Program
Post Office Box 10009
Richmond, Virginia 23240
Phone: (804) 698-4000, Fax: (804) 698-4032
Websites: http://www.deq.virginia.gov/
http://www.deq.virginia.gov/regions/homepage.html

The following instructions and information are designed to assist you in applying for permits from Federal, State, and Local regulatory agencies for work in waters and/or wetlands within the Commonwealth of Virginia. The intent is to provide general information on the permit process, not to act as a complete legal and technical reference.

JOINT PERMIT APPLICATION PROCESS: The Joint Permit Application (JPA) process and standard JPA form are used by the United States Army Corps of Engineers (USACE), the Virginia Marine Resources Commission (VMRC), the Virginia Department of Environmental Quality (DEQ), and the Local Wetlands Boards (LWB) for permitting purposes involving water and wetland resources. Please note that some health departments and local agencies, such as local building officials and erosion and sediment control authorities, do not use this application process and may have different informational requirements. The applicant is responsible for contacting these agencies for information regarding their permitting requirements.

The Tidewater Joint Permit Application form may be used for most commercial and noncommercial projects in **tidal waters and tidal wetlands in Virginia** which require the review and/or authorization by local wetlands boards, the Virginia Marine Resources Commission, the Department of Environmental Quality, and/or the U. S. Army Corps of Engineers. The Tidewater JPA may be downloaded from the same web page on which the standard JPA is located http://www.nao.usace.army.mil/Regulatory/JPA.html. *If using the Tidewater JPA, follow the instructions provided with that form.* Note that the Tidewater JPA form is not intended for noncommercial, riparian shellfish aquaculture projects (i.e., "oyster gardening"); the form for these types of projects may be obtained from http://www.mrc.virginia.gov/forms/abbrjpa.pdf or from the VMRC office.

REGULATORY AUTHORITIES OF PARTICIPATING AGENCIES:

The USACE regulates activities in waters of the United States, including wetlands, under Section 404 of the Clean Water Act (33 U.S.C. §1344), Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. §403), and Section 103 of the Marine Protection Research and Sanctuaries Act of 1972 (33 U.S.C. §1413).

The VMRC regulates activities in submerged lands, marine fisheries, and coastal resources (tidal wetlands and coastal sand dunes/beaches) under Code of Virginia Title 28.2, Chapters 12, 13, and 14.

The DEQ regulates activities in state waters and wetlands under Section 401 of the Clean Water Act (33 U.S.C. §1341), under State Water Control Law (Code of Virginia Title 62.1), and Virginia Administrative Code Regulations 9VAC25-210 et seq., 9VAC25-660 et seq., 9VAC25-670 et seq., 9VAC25-680 et seq., and 9VAC25-690 et seq.

The LWB regulate activities in tidal wetlands under Code of Virginia Title 28.2, Chapters 13 and 14.

LOCAL WETLANDS BOARD CONTACT INFORMATION: Links to LWB information on the Web can be found at http://www.nao.usace.army.mil/regulatory/wetlandsboard.htm. In addition, the following phone numbers can be used to contact the LWB. Please be advised that these phone numbers are subject to change at any time.
Accomack County (757) 787-5721, Cape Charles (757) 331-3259, Charles City County (804) 829-9296, Chesapeake (757) 382-6248, Colonial Heights (804) 520-9275, Essex County (804) 443-4951, Fairfax County (703) 324-1364, Fredericksburg (540) 372-1179, Gloucester County (804) 693-2744, Hampton (757) 727-6140, Hopewell (804) 541-2267, Isle of Wight County (757) 365-6211, James City County (757) 253-6673, King and Queen County (804) 769-4978, King George County (540) 775-7111, King William County (804) 769-4927, Lancaster County (804) 462-5220, Mathews County (804) 725-5025, Middlesex County (804) 758-0500, New Kent County (804) 966-9690, Newport News (757) 247-8437, Norfolk (757) 664-4368, Northampton County (757) 678-0442, Northumberland County (804) 580-8910, Poquoson (757) 868-3040, Portsmouth (757) 393-8836, Prince William County (703) 792-6984, Richmond County (804) 333-3415, Stafford County (540) 658-8668, Suffolk (757) 923-3650, Virginia Beach (757) 427-8246, Westmoreland County (804) 493-0120, West Point (804) 843-3330, Williamsburg (757) 220-6130, York County (757) 890-3538

USACE FIELD OFFICE INFORMATION AND DEQ REGIONAL OFFICE INFORMATION:
Answers to technical questions and detailed information about specific aspects of the various permit programs may be obtained from the USACE field office in your project area (please refer to http://www.nao.usace.army.mil/Regulatory/varegions.htm or call 757-201-7652), or from the DEQ regional office in your project area (please refer to http://www.deq.virginia.gov/regions/homepage.htm or call 804-698-4000). Applicants may also seek assistance with completing the informational requirements and/or submittals from private consulting and/or engineering firms for hire.

CHESAPEAKE BAY PRESERVATION ACT INFORMATION: Development within the 84 Counties, Cities, and Towns of "Tidewater Virginia" (as defined in §10.1-2100 of the Code of Virginia) is subject to the requirements of the Chesapeake Bay Preservation Act. If your project is located in a Bay Act locality and will involve land disturbance or removal of vegetation within a designated Resource Protection Area (RPA), these actions will require approval from your local government and completion of Appendix D. The individual localities, not the Local Wetlands Boards, are responsible for enforcing Bay Act requirements and, therefore, local permits for land disturbance are not issued through this JPA process. The requirements of the Bay Act may, however, affect the ultimate design and construction of projects. In order to ensure that these requirements are considered early in the permitting process, and to avoid unnecessary and costly delays, applicants should contact their local government as early in the process as possible. Individual localities may request information regarding existing vegetation within the RPA as well as a description and site drawings of any proposed land disturbance or vegetation clearing. Locality staff charged with ensuring compliance with the Bay Act will then evaluate project proposals and advise their Local Wetlands Boards of applicable Bay Act issues. To determine if your project is located in a CBPA (see map on page 29), learn more about Bay Act requirements, or find local government contacts, please visit the Chesapeake Bay Local Assistance Department's Web site at: http://www.cblad.virginia.gov or contact the Department at:

Chesapeake Bay Local Assistance Department
James Monroe Building
101 North 14th Street, 17th Floor
Richmond, Virginia 23219
(804) 225-3440 **or** (800) 243-7229

HOW TO APPLY

PROJECTS INVOLVING IMPACTS TO TIDAL WATERS AND/OR WETLANDS (INCLUDING SHORELINE STABILIZATION, PIERS, MARINAS, BEACH NOURISHMENT, BOATHOUSES, BOAT LIFTS, BREAKWATERS, AQUACULTURE ACTIVITIES, DREDGING, ETC.): Prepare all drawings as detailed in Appendix A (*General Instructions for Drawings*). Sample drawings are given in Appendix E. For purposes of DEQ Regulation 9 VAC 25-210 et seq. (http://leg1.state.va.us/000/reg/TOC09025.HTM#C0210), JPA Sections 1 through 24 that are applicable to your project, plus any required submittals such as maps, drawings, plans, extra answer sheets, etc., shall constitute the DEQ Addendum and Appendices. Refer to this regulation for complete informational requirements under the DEQ Virginia Water Protection Permit Program.

SUBMIT THE FOLLOWING TO VMRC AT THE ADDRESS ON PAGE 1 OF THIS PACKAGE:

- All *applicable* portions of Sections 1 through 24 of the JPA, including necessary attachments, information required for projects located in CBPAs as required in Appendix D (a map of CBPA localities can be found on page 29)
- Adjacent Property Owner's Acknowledgement Forms[(1)], as detailed in Appendix B
- A set of 8 ½ x 11 inch drawings (if you can not include all of your project site on one page at a scale no smaller than 1" = 200', you **must** submit a set of 8 ½ x 11 inch match-line drawings **and** 5 large-sized drawings at a scale no smaller than 1"= 200')
- In order for projects requiring LWB authorization to be considered complete, applications must include the following information (per Virginia Code 28.2-1302):

> *"The permit application shall include the following: the name and address of the applicant; a detailed description of the proposed activities; a map, drawn to an appropriate and uniform scale, showing the area of wetlands directly affected, the location of the proposed work thereon, the area of existing and proposed fill and excavation, the location, width, depth and length of any proposed channel and disposal area, and the location of all existing and proposed structures, sewage collection and treatment facilities, utility installations, roadways, and other related appurtenances of facilities, including those on the adjacent uplands; a description of the type of equipment to be used and the means of access to the activity site; the names and addresses of record of adjacent land and known claimants of water rights in or adjacent to the wetland of whom the applicant has notice; an estimate of cost; the primary purpose of the project; and secondary purpose of the proposed project; a complete description of measures to be taken during and after alteration to reduce detrimental offsite effects; the completion date of the proposed work, project, or structure; and such additional materials and documentation as the wetlands board may require."*

PROJECTS INVOLVING IMPACTS TO NONTIDAL WATERS AND/OR WETLANDS:

Prepare all drawings as detailed in Appendix A (*General Instructions for Drawings*). Sample drawings are given in Appendix E. When using this JPA as a Registration Statement for a DEQ *VWP General Permit*, be sure to complete JPA Sections 1 through 4, 7, 8, and 9, and each JPA Section 10 through 24 that is applicable to your project, and attach any required maps, drawings, mitigation plans, extra sheets, etc. For purposes of DEQ Regulations 9 VAC 25-210 et seq. and 9 VAC 25-[660-690] et seq., the DEQ Addendum and the Appendices will consist of each JPA Section 11 through 24 that is applicable to your project, plus any required submittals, such as maps, drawings, mitigation plans, extra sheets used for your application answers, etc. This JPA may be used as a Registration

Statement for DEQ only when the project impacts up to one-tenth acre of surface waters and no other agencies are issuing permits. In this case, complete sections 1 through 4, 7, and 9, and attach any required maps, drawings, extra sheets, etc.*; and at the top of page 9, mark the blank indicating that you are using the JPA as a DEQ Registration Statement.* Refer to DEQ Regulations 9 VAC 25-210 et seq. and 9 VAC 25-[660-690] et seq. for complete informational requirements under the VWP Permit Program.

COMMERCIAL AND RESIDENTIAL DEVELOPMENT ACTIVITIES
(including associated roads, stormwater management facilities, and utility lines):

FIND THE SCENARIO THAT BEST DESCRIBES YOUR PROJECT'S IMPACTS AND SUBMIT THE INFORMATION REQUESTED UNDER THAT SCENARIO TO EACH INDIVIDUAL AGENCY OFFICE AS DIRECTED BELOW:

SCENARIO 1: The project will cause the loss of up to 1/10 acre of waters and/or wetlands *or* no more than 300 linear feet of stream bed. Submit the following **separately** to VMRC, the appropriate Corps office, and the appropriate DEQ Regional Office (these addresses can be found on page 1 of this package and by visiting the Corps and DEQ websites listed on page 1 of this package):

- All *applicable* portions of Sections 1 through 24 of the JPA, including any necessary attachments, all information required for projects located in CBPAs as required in Appendix D (a map of CBPA localities can be found on page 29), and a copy of the FEMA flood insurance rate map or FEMA-approved local floodplain map for the project site.
- A set of 8 ½ x 11 inch drawings (if you can not include all of your project site on one page at a scale no smaller than 1" = 200', you **must** submit a set of 8 ½ x 11 inch match-line drawings **and** a set of large-sized drawings at a scale no smaller than 1"= 200').
- 3 additional sets of large-sized drawings must be submitted to the appropriate Corps office.

SCENARIO 2: The project will cause the loss of over 1/10 acre of wetlands and/or waters *or* greater than 301 linear feet of stream bed. Submit the following **separately** to VMRC, the appropriate Corps office, and the appropriate DEQ Regional Office (these addresses can be found on page 1 of this package and by visiting the Corps and DEQ websites listed on page 1 of this package):

- All *applicable* portions of Sections 1 through 24 of the JPA, including necessary attachments, a conceptual compensatory mitigation plan[2], a copy of the Corps' confirmed waters and wetlands delineation (including data sheets), all information required for projects located in CBPAs as required in Appendix D (a map of CBPA localities can be found on page 29), and a copy of the FEMA flood insurance rate map or FEMA-approved local floodplain map for the project site
- *For projects with impacts to greater than 1 acre of wetlands* ***or*** *for water withdrawals:* a functional values assessment[3], consisting of a narrative description of the existing functions and values of the wetlands and waters being impacted, the impact that the project will have on these functions and values, information on the beneficial uses of surface waters, and information on fish/wildlife habitat.
- A set of 8 ½ x 11 inch drawings (if you can not include all of your project site on one page at a scale no smaller than 1" = 200', you **must** submit a set of 8 ½ x 11 inch match-line drawings **and** a set of large-sized drawings at a scale no smaller than 1"= 200').
- 4 additional sets of large-sized drawings must be submitted to the appropriate Corps office.

LINEAR TRANSPORTATION OR UTILITY LINE PROJECTS:

SUBMIT THE FOLLOWING TO VMRC AT THE ADDRESS ON PAGE 1 OF THIS PACKAGE:

- All *applicable* portions of Sections 1 through 24 of the JPA, including necessary attachments, a conceptual compensatory mitigation plan[2] for all projects impacting wetlands and for projects impacting greater than 300 linear feet of stream bed, a copy of the Corps' confirmed waters and wetlands delineation (including data sheets), and all information required for projects located in CBPAs as required in Appendix D (a map of CBPA localities can be found on page 29)
- *For projects with impacts to greater than 1 acre of wetlands* ***or*** *water withdrawals:* a functional values assessment[3], consisting of a narrative description of the existing functions and values of the wetlands and waters being impacted, the impact that the project will have on these functions and values, information on the beneficial uses of surface waters, and information on fish/wildlife habitat.
- A set of 8 ½ x 11 inch drawings (if you can not include all of your project site on one page at a scale no smaller than 1" = 200', you **must** submit a set of 8 ½ x 11 inch match-line drawings **and** 3 sets of large-sized drawings at a scale no smaller than 1"= 200')

OTHER ACTIVITIES IN NONTIDAL WATERS AND/OR WETLANDS:

SUBMIT THE FOLLOWING TO VMRC AT THE ADDRESS ON PAGE 1 OF THIS PACKAGE:

- All *applicable* portions of Sections 1 through 24 of the JPA, including necessary attachments, a conceptual compensatory mitigation plan[2], a copy of the Corps' confirmed waters and wetlands delineation (including data sheets), all information required for projects located in CBPAs as required in Appendix D (a map of CBPA localities can be found on page 29), and a copy of the FEMA flood insurance rate map or FEMA-approved local floodplain map for the project site

- *For projects with impacts to greater than 1 acre of wetlands **or** water withdrawals:* a functional values assessment[3], consisting of a narrative description of the existing functions and values of the wetlands and waters being impacted, the impact that the project will have on these functions and values, information on the beneficial uses of surface waters, and information on fish/wildlife habitat.
- A set of 8 ½ x 11 inch drawings (if you can not include all of your project site on one page at a scale no smaller than 1" = 200', you **must** submit a set of 8 ½ x 11 inch match-line drawings **and** 3 sets of large-sized drawings at a scale no smaller than 1"= 200')

USING THIS JPA AS A PRE-CONSTRUCTION NOTIFICATION (PCN) FOR A USACE NATIONWIDE PERMIT:

Prepare all drawings as detailed in Appendix A (*General Instructions for Drawings*). Sample drawings are given in Appendix E.

SUBMIT THE FOLLOWING TO VMRC AT THE ADDRESS ON PAGE 1 OF THIS PACKAGE:

- All *applicable* portions of Sections 1 through 24 of the JPA, including necessary attachments and all information required for projects located in CBPAs as required in Appendix D (a map of CBPA localities can be found on page 29)
- At the top of page 9, mark the box indicating that the JPA is being used as a PCN. If you fail to mark this box, the PCN will be deemed incomplete and the USACE 45-day time clock will not start.
- *For projects impacting tidal waters and/or wetlands:* A set of 8 ½ x 11 inch drawings (if you can not include all of your project site on one page at a scale no smaller than 1" = 200', you **must** submit a set of 8 ½ x 11 inch match-line drawings **and** 5 sets of large-sized drawings at a scale no smaller than 1"= 200')
- *For projects impacting nontidal waters and/or wetlands:* A set of 8 ½ x 11 inch drawings (if you can not include all of your project site on one page at a scale no smaller than 1" = 200', you **must** submit a set of 8 ½ x 11 inch match-line drawings **and** 3 sets of large-sized drawings at a scale no smaller than 1"= 200')

Footnotes:

(1) Adjacent Property Owner Notification: *When determining whether to grant or deny any permit for the use of state-owned bottomlands, the VMRC must consider, among other things, effects of a proposed project on adjacent or nearby properties. Discussing the proposed project with these property owners can be done on your own using the forms in Appendix B of this package. LWB must also consider the effects on adjacent properties. The completed forms will assist VMRC and LWB in processing the application. The forms in Appendix B may be photocopied if more copies are needed.*

(2) Conceptual mitigation plans*, when required, should include all information stipulated by DEQ regulations. The final compensatory mitigation plan will be required prior to commencement of impacts to waters and/or wetlands on your project site. For conceptual and final compensation plan requirements, see DEQ Regulations 9 VAC 25-210 et seq. and/or 9 VAC 25-[660-690] et seq. If no mitigation is planned, submit a detailed statement explaining the reason(s) for no mitigation.*

(3) Functions and values assessments, *when requested for wetland impacts over 1 acre in size (through one single impact area or aggregately through impacts over the entire site) or for water withdrawals, should indicate the assessment methodology that was employed.*

WHAT HAPPENS NEXT: VMRC will assign a permit application number to your Tidewater JPA or standard JPA and then distribute copies of the application to the other regulatory agencies that are involved in the JPA process. All agencies will conduct separate but concurrent reviews of your project. Please be aware that while one JPA has been submitted, each agency must issue a separate permit (or a notification that no permit is required). Therefore, make sure that you have received all necessary authorizations, or documentation that no permit is required from each agency, prior to beginning the proposed work in waters and/or wetlands.

During the JPA review process, site inspections may be necessary to evaluate a proposed project. Failure to allow an authorized representative of a regulatory agency to enter the property, or to take photographs of conditions at the project site, may result in either a permit application withdrawal or a permit denial.

For certain Federal and State permits, a public notice is published in a newspaper having circulation in the project area, mailed to adjacent property owners, and/or posted on the agency's Web page. The public may comment on the project during a designated comment period, which varies from agency to agency. Some agencies accept comments during the permit review process, while others only accept comments on draft permits. Comments are evaluated and a decision is made whether to issue a permit, issue a permit with special conditions, or to deny a permit. When applicable, the project will be heard by the appropriate LWB after a notice of public hearing has been advertised for at least once a week for two consecutive weeks in a local newspaper. VMRC will conduct the hearings for the localities that do not have a wetlands board. You may be responsible for bearing the costs for advertisement of public notices.

Protested applications for VMRC permits which can not be resolved, projects costing over $50,000 involving encroachment over State-owned subaqueous land, and all projects affecting State and local wetlands in localities without a LWB will be scheduled for public hearings by VMRC at their regularly scheduled monthly commission meetings. All interested parties will be officially notified regarding the date and time of the hearing and Commission meeting procedures. The Commission will make a decision on the project at the meeting unless a decision for continuance is made. If a proposed project is approved, a permit or agency correspondence is sent to the applicant. In some cases, a notarized signature as well as processing fees and royalties are required before the permit is validated. If the project is denied, the reason(s) for denial will be provided in writing.

PERMIT APPLICATION FEES: ***Do not send any permit application fees in with the JPA.*** Fees are subject to change. Please consult agency Websites or contact agencies directly for current fee information.

- USACE: Permit application fees are required for USACE Individual (Standard) permits. A USACE project manager will contact you regarding the proper fee and submittal requirements.
- DEQ: Permit application fees required by DEQ for VWP permits are provided on DEQ's Website at http://www.deq.virginia.gov or on the Commonwealth of Virginia's Website at http://leg1.state.va.us/000/reg/TOC.HTM under 9 VAC 25-20-et seq. A DEQ project manager will contact you regarding the proper fee and submittal requirements after receiving your application package. After being contacted by the DEQ, mail the permit application fee to the DEQ Receipts Control along with the Permit Application Fee Form. Please note that when completing DEQ's Permit Application Fee Form, make sure that the applicant name and facility (project) name are the same as those reported in your JPA.
- VMRC: Permit fees are $25.00 for projects costing $10,000 or less and $100 for projects costing more than $10,000. The proper fee is paid at the time of permit issuance by VMRC. VMRC staff will send the permittee a letter notifying him/her of the proper fee and submittal requirements.
- LWB: Permit fees vary. Contact the LWB in your locality or reference locality Websites for fee information and submittal requirements. Contact information for LWB is given on page 1 of this JPA.

FEDERAL WETLAND DELINEATIONS: Wetland delineations are to be performed using the 1987 Corps of Engineers Wetland Delineation Manual. If you would like the USACE to confirm a wetlands/waters delineation conducted by yourself or a third party, the following pre-application information should be submitted to the appropriate USACE staff:

- the names and addresses of the project proponent and landowner
- an 8 ½" by 11" copy of an accurate topographic map or the appropriate portion of a U.S. Quadrangle sheet of the property boundary and site survey/property plat
- a wetland delineation map (prepared in accordance with the Corps 1987 delineation and subsequent applicable guidance) including handwritten or typed wetland delineation data sheets for each "vegetative community" and the location of the data points and transect lines on a map along with a sufficient number of data points to document the proposed nontidal waters and wetland boundary
- data points up and down slope of the location of the wetland or waters boundary
- the proposed wetland and waters boundaries must be flagged and numbered in the field
- a distinction between the acreage of wetlands and the linear footage of waters (streams, etc.)

INFORMATION REGARDING THREATENED OR ENDANGERED SPECIES:
In order to find preliminary information regarding federal or state threatened or endangered species on your project site, you may contact the following agencies:

United States Fish and Wildlife Service
6669 Short Lane
Gloucester, Virginia 23061
Voice: (804) 693-6694
Fax: (804) 693-9032
http://virginiafieldoffice.fws.gov/

Project Review Coordinator
Virginia Department of Conservation and Recreation
Natural Heritage Division
217 Governor Street
Richmond, Virginia 23219
Voice: (804) 786-7951
Fax: (804) 371-2674
http://www.dcr.virginia.gov/dnh/index.html

Virginia Department of Game and Inland Fisheries
Environmental Services Section
4010 West Broad Street
Richmond, Virginia 23230-1104
(804) 367-1000
http://www.dgif.virginia.gov/

INFORMATION REGARDING FEMA-MAPPED FLOODPLAINS:
You may obtain "Online Hazard Maps" for FEMA-mapped floodplains by visiting http://www.esri.com/hazards/makemap.html. Local governments also keep paper copies of FEMA maps on hand.

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Appendix D:	Chesapeake Bay Preservation Act Information	28-29
Appendix E:	Sample Drawings	30-40

PLEASE PRINT OR TYPE ALL ANSWERS. If a question does not apply to your project, please print N/A (not applicable) in the space provided. ***If additional space is needed, attach extra 8 ½ x 11 inch sheets of paper.***

If using JPA as Pre-Construction Notification (PCN), check here: _____
If using JPA as a DEQ Registration Statement, check here: _____

1. PROJECT LOCATION INFORMATION (Attach a copy of a map, such as a USGS topographic map or ADC map showing the site location. Include an arrow indicating the North Direction.)	
Address Along Ocean Avenue between Lea View and Little Creek Inlet	City/County Norfolk
Subdivision	Lot/Block/Parcel #
Name of waterbody(ies) within project boundaries Chesapeake Bay	Tributary(ies) to Atlantic Ocean
Project type (check one) _____ Single user (private, non-commercial, residential) _x_ Multi-user (community, commercial, industrial, government)	
Latitude and longitude at center of project site: 36 - 56 - 46 / 76 - 14 - 17	
For projects impacting nontidal wetlands/waters only: 8- digit USGS Hydrologic Unit Code (HUC) for your project site (See www.epa.gov/surf/): _____	
Name of your project (Example: Piddly Creek driveway crossing) Ocean View Dredging and Beach Replenishment	
Is there an access road to the project? _x_ yes __ no. If yes, check all that apply: _x_ public __ private _x_ improved __ unimproved	
How can your site be identified if there is no visible address? Shoreline of Ocean View	
Provide driving directions to your site, giving distances from the best and nearest visible landmarks or major intersections: Length Along Ocean Avenue between Lea View and Little Creek Inlet	
Does your project site cross boundaries of two or more localities (i.e. cities/counties/towns)? __ yes _x_ no If so, name those localities:	

FOR AGENCY USE ONLY	
	Notes:
JPA#	

2. APPLICANT(S), AGENT, PROPERTY OWNER(S), AND CONTRACTOR INFORMATION

The applicant(s) can either be the property owner(s) or the person/people/company(ies) that intend(s) to undertake the activity. The agent is the person or company that is representing the applicant(s).

Applicant(s)			Agent (if applicable)		
City of Norfolk c/o Edwin L. Rosenberg					
Mailing address			Mailing address		
508 City Hall Building 810 Union Street					
City	State	Zip Code	City	State	Zip Code
Norfolk	VA	23510			
Phone number w/area code	Fax		Phone number w/area code	Fax	
757-664-4373	757-664-4370				
Mobile/pager	E-mail		Mobile/pager	E-mail	
757-617-7993	lee.rosenberg@norfolk.gov				
Property owner(s) (if different from applicant)			Contractor (if known)		
same as above					
Mailing address			Mailing address		
City	State	Zip code	City	State	Zip code
Phone number w/area code	Fax		Phone number w/area code	Fax	
Mobile/pager	E-mail		Mobile/pager	E-mail	

3. DESCRIPTION OF PROJECT, PROJECT PRIMARY AND SECONDARY PURPOSES, INTENDED USE, AND ALTERNATIVES CONSIDERED (Attach additional sheets if necessary)

- The purpose must include any new development or expansion of an existing land use and/or proposed future use of residual land
- Describe the physical alteration of surface waters
- Include a description of alternatives considered to avoid or minimize impacts to surface waters, including wetlands, to the maximum extent practicable. Include factors such as, but not limited to, alternative construction technologies, alternative project layout and design, alternative locations, local land use regulations, and existing infrastructure
- For utility crossings, include both alternative routes and alternative construction methodologies considered

Beach replenishment project along approximately 7.2 miles of shoreline with the placement of beach quality sand brought in by pipeline from a borrow area at Willoughby Bank and adjacent to Thimble Shoal Channel. The purpose of the project is to abate a chronic shoreline erosion problem, increase protection to public and private property, provide storm protection, and restore the public beach. The application seeks authorization to obtain beach fill from the above mentioned borrow areas and maintain the desired beach area through periodic renourishments as the budget allows.

It is envisioned that the City will complete individual smaller projects over time and would not complete the entire 2.4 million cubic yard project at once given bugetary constraints. However, the City ultimately desires to provide the replenishment area shown for storm protection. In addition to the beach nourishment, the extension of the twelve stormwater outfalls (at 10 locations) will be required to keep them functional. There will be no increase in flow through the outfalls. Depending on the individual outfall, the extension lengths will range from 65' - 145' from the existing ends. A significant portion of the outfall extensions were permitted under JPA Permit No. 04-2262. In order to facilitate construction of the outfall extensions, a temporary causeway may be required. However, it is expected that this causeway would fall within the proposed beach replenishment template, and that no additional fill would be required.

3. DESCRIPTION OF PROJECT (Continued)

Date of proposed commencement of work (M/D/Y)	Date of proposed completion of work (M/D/Y)
12/01/2006	12/01/2012
Are you submitting this application at the direction of any State, local, or Federal agency? _____yes _x_no	Has any work commenced or has any portion of the project for which you are seeking a permit been completed? _____ yes _x_ no

If you answered "yes" to either question above, give details stating when the work was completed and/or when it commenced, who performed the work, and which agency (if any) directed you to submit this application. In addition, you will need to clearly differentiate between completed work and proposed work on your project drawings.

Are you aware of any unresolved violations of environmental law or litigation involving the property? _____yes _x_no
(If yes, please explain)

4. LIST ALL PREVIOUS SITE VISITS AND/OR PERMITS RELATED TO THE PROPOSED WORK (Include all Federal, State, and Local pre-application coordination or previous permits)

Agency	Activity	Permit/Project number	Action taken **	If denied, give reason for denial
JPA	OV Beach Nourishment	04-0356	Issued	
JPA	EOV Beach Nourishment	03-2260	Issued	
JPA	Outfall Extensions	04-2262	Issued	

** Issued, denied, site visit

5. PROJECT COSTS

Approximate cost of the entire project, including materials and labor: $ 28,500,000

Approximate cost of only the portion of the project affecting State waters (below mean low water in tidal areas and below ordinary water level in nontidal areas): $ _____

6. PUBLIC NOTIFICATION (Attach additional sheets if necessary)

- Complete information for all property owners adjacent to the project site and across the waterway, if the waterway is less than 500 feet in width. If your project is located within a cove, you will need to provide names and mailing addresses for all property owners within the cove.
- If you own the adjacent lot, provide the requested information for the first adjacent parcel beyond your property line.

Property owner's name	Mailing address	City	State	Zip code
SEE ATTACHED				

Name of newspaper having general circulation in the area of the project: The Virginian-Pilot
Address of newspaper 150 W. Brambleton Avenue Norfolk, VA 23510
Phone number of newspaper (including area code) 757-446-4717

Have adjacent property owners been notified with forms in Appendix B? _____yes _____no (attach copies of distributed forms)

7. THREATENED AND ENDANGERED SPECIES INFORMATION:

If not already attached to this JPA as part of your Corps' waters and wetlands delineation confirmation, please provide any information concerning the potential for your project to impact state and/or federally threatened and endangered species (listed or proposed). Attach correspondence from agencies and/or reference materials that address potential impacts. Contact information for the Virginia Department of Game and Inland Fisheries and the Virginia Department of Conservation and Recreation, Division of Natural Heritage can be found on page 5 of this package.

From previous dredge projects in Thimble Shoal Channel, sea turtles are known to exist in the area. The existence of sea turtles in this area has been documented by National Marine Fisheries.

8. WETLANDS/WATERS IMPACT INFORMATION

Report each impact on a separate line, even if more than one impact occurs at the same Impact Site Number. If needed, attach additional sheets using an exact or similar format as the table below.

Impact site number (1, 2, etc.)	Wetland/water impact description*	Wetland impact area (acres)	Cowardin classification of impacted wetland/water (PEM, PSS, PFO, etc.)	Stream/Waters dimensions at impact site (length and width in feet)
Example 1	F, NT, PE, V	1	PFO	N/A
Example 1	F, NT, TE, PR, V	N/A	N/A	200 x 10
Example 2	EX, T, PE, SB, NV	N/A	N/A	250 x 100

* use all that apply: F=fill, EX=excavation, T=tidal, NT=non-tidal, TE=temporary, PE=permanent, PR=perennial, IN=intermittent, SB=subaqueous bottom, IS=hydrologically isolated, V=vegetated, NV=non-vegetated, MC=Mechanized Clearing of FPO

DEQ Classification of impacted resource(s) (mark the boxes next to those that apply):

☐ Non-tidal waters Class III	☐ Mountainous zone waters Class IV	☐ Stockable trout waters Class V	☐ Natural trout waters Class VI	☐ Wetlands Class VII	☐ Estuarine Class II

9. APPLICANT, AGENT, AND CONTRACTOR CERTIFICATIONS

READ ALL OF THE FOLLOWING CAREFULLY BEFORE SIGNING

PRIVACY ACT STATEMENT: The Department of the Army permit program is authorized by Section 10 of the Rivers and Harbors Act of 1899, Section 404 of the Clean Water Act, and Section 103 of the Marine Protection Research and Sanctuaries Act of 1972. These laws require that individuals obtain permits that authorize structures and work in or affecting navigable waters of the United States, the discharge of dredged or fill material into waters of the United States, and the transportation of dredged material for the purpose of dumping it into ocean waters prior to undertaking the activity. Information provided in the Joint Permit Application will be used in the permit review process and is a matter of public record once the application is filed. Disclosure of the requested information is voluntary, but it may not be possible to evaluate the permit application or to issue a permit if the information requested is not provided.

I hereby apply for all necessary permits for the activities I have described herein. I agree to allow the duly authorized representatives of any regulatory or advisory agency to enter upon the premises of the project site at reasonable times to inspect and photograph site conditions.

In addition, I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Applicant's name (printed or typed)	Second applicant's name (printed or typed)
Applicant's signature	Second applicant's signature
Date	Date

9. CERTIFICATIONS (continued)

CERTIFICATION OF AUTHORIZATION TO ALLOW AGENTS TO ACT ON APPLICANT'S BEHALF (IF APPLICABLE)

I, _____, hereby certify that I have authorized _____
(APPLICANT'S NAME) (AGENT'S NAME)
to act on my behalf and take all actions necessary to the processing, issuance, and acceptance of this permit and any and all standard and special conditions attached. We hereby certify that the information submitted in this application is true and accurate to the best of our knowledge.

Applicant's signature	Second applicant's signature	Agent's signature
Date	Date	Date

CONTRACTOR ACKNOWLEDGEMENT (IF APPLICABLE)

I, _____, have contracted _____
(APPLICANT'S NAME) (CONTRACTOR'S NAME)
to perform the work described in this Joint Permit Application, signed and dated _____.

We will read and abide by all conditions as set forth in all Federal, State, and Local permits as required for this project. We understand that failure to follow the conditions of the permits may constitute a violation of applicable Federal, State, and Local statutes and that we will be liable for any civil and/or criminal penalties imposed by these statutes.

In addition, we agree to make available a copy of any permit to any regulatory representative visiting the project site to ensure permit compliance. If we fail to provide the applicable permit upon request, we understand that the representative will have the option of stopping our operation until it has been determined that we have a properly signed and executed permit and are in full compliance with all of the terms and conditions.

Contractor's name or name of firm (printed/typed)	Contractor's or firm's mailing address	
Contractor's license number	Contractor's signature and title	Date
Applicant's signature	Second applicant's signature	
Date	Date	

END OF GENERAL INFORMATION

The following sections are activity-specific. Fill out only the sections that apply to your particular project.

10. PRIVATE PIERS, MARGINAL WHARVES, AND UNCOVERED BOAT LIFTS

*If you plan to construct a private, residential pier, you **may** qualify to work in a non-reporting capacity under the Norfolk District Corps of Engineers' Regional Permit 17 (RP-17).*

A copy of RP-17 can be obtained by calling (757) 201-7652 or by visiting the Corps' Website at http://www.nao.usace.army.mil/Regulatory/RBregional.htm. A copy of the RP-17 Certificate of Compliance is found in Appendix C of this application package. You should only sign and return this form to the Corps if you have completely read and understood the terms and conditions of RP-17. **You will need to contact the Virginia Marine Resources Commission at (757) 247-2200 and your local wetlands board for further information concerning their permit requirements before proceeding with any work.**

In cases where the proposed pier will encroach beyond one fourth the waterway width (as determined by measuring mean high water to mean high water or ordinary high water to ordinary high water), the following information must be included before the application will be considered complete:

1. Depth soundings across the waterway at 10-foot increments for waterways up to 200 feet wide or at 20-foot increments for waterways greater than 200 feet wide
2. Other justification to exceed the one-fourth width (on separate sheets of paper)

Number of vessels to be moored at the pier or wharf: _____

In the spaces provided below, give the type (ie, sail, power, skiff, etc), size, and registration number of the vessel(s) to be moored.

TYPE	LENGTH	WIDTH	DRAFT	REGISTRATION #

11. BOATHOUSES, GAZEBOS, COVERED BOAT LIFTS, AND OTHER ROOFED STRUCTURES OVER WATERWAYS

No. of vessels to be moored at the proposed structure: _____ | Will the sides of the structure be enclosed? _____yes _____no

In the spaces provided below, give the type (ie, sail, power, skiff, etc), size, and registration number of the vessel(s) to be moored.

TYPE	LENGTH	WIDTH	DRAFT	REGISTRATION #

12. MARINAS, COMMERCIAL, GOVERNMENTAL, AND COMMUNITY PIERS

Have you obtained the Virginia Department of Health's approval for sanitary facilities? _____yes _____no
You will need to obtain this authorization or a variance before a VMRC permit will be issued.

Will petroleum products or other hazardous materials be stored or handled at the facility? _____yes _____no
If your answer is yes, please attach your spill contingency plan.

Will the facility be equipped to off-load sewage from boats? _____yes _____no

EXISTING: wet slips: _____ dry storage: _____	*PROPOSED:* wet slips: _____ dry storage: _____

13. FREE STANDING MOORING PILES, OSPREY NESTING POLES, MOORING BUOYS, AND DOLPHINS (not associated with piers)

Number of vessels to be moored: _____	Type and number of mooring(s) proposed:_____

In the spaces provided below, give the type (jet, sail, power, skiff, etc.), size, and registration number of the vessel(s) to be moored.

TYPE	LENGTH	WIDTH	DRAFT	REGISTRATION #

Give the name and complete mailing address(es) of the owner(s) of the vessel(s) if not owned by applicant (attach extra sheets if needed):

Do you plan to reach the mooring from your own upland property? _____yes _____no
If "no," explain how you intend to access the mooring.

14. BOAT RAMPS

Will excavation be required to construct the boat ramp? _____yes _____no
If "yes," will any of the excavation occur below the plane of the ordinary high water line/mean high water line or in wetlands?
_____yes _____no
If "yes," you will need to fill out Section 17 for this excavation. Where will you dispose of the excavated material?

What type of design and materials will be used to construct the ramp (open pile design with salt treated lumber, concrete slab on gravel bedding, etc.)?

Location of nearest public boat ramp	Driving distance to that public ramp _____miles

Will other structures be constructed concurrent with the boat ramp installation? _____yes _____no
If "yes," please fill out the appropriate sections of this application associated with those other activities.

15. TIDAL/NONTIDAL SHORELINE STABILIZATION STRUCTURES (INCLUDING BULKHEADS AND ASSOCIATED BACKFILL, RIPRAP REVETMENTS AND ASSOCIATED BACKFILL, MARSH TOE STABILIZATION, GROINS, JETTIES, AND BREAKWATERS)

Is any portion of the project maintenance or replacement of an existing and currently serviceable structure? _____yes _____no
If yes, give length of existing structure: _____ linear feet

If your maintenance project entails replacement of a bulkhead, is it possible to construct the replacement bulkhead within 2 feet channelward of the existing bulkhead? _____yes _____no If not, please explain below:

15. TIDAL/NONTIDAL SHORELINE STABILIZATION STRUCTURES (continued)

Length of proposed structure, including returns: _____linear feet

Average channelward encroachment of the structure from Mean high water/ordinary high water: _____ feet Mean low water: _____feet	*Maximum* channelward encroachment of the structure from Mean high water/ordinary high water: _____ feet Mean low water: _____feet

Describe the type of construction including all materials to be used (including all fittings):

Will filter cloth be used? ____yes ____no

What is the source of the backfill material? _____
What is the composition of the backfill material? _____

If rock is to be used, give the average volume of material to be used for every linear foot of construction: _____cubic yards
What is the volume of material to be placed below the plane of ordinary high water/mean high water? _____cubic yards

For projects involving stone:
Average weight of core material (bottom layers): _____pounds per stone (Class_____)
Average weight of armor material (top layers): _____pounds per stone (Class_____)

Are there similar shoreline stabilization structures in the vicinity of your project site? _____yes _____no
If so, describe the type(s) and location(s) of the structure(s):

If you are building a groin or jetty, will the channelward end of the structure be marked to show a hazard to navigation? _____yes _____no	Has your project been reviewed by the Shoreline Erosion Advisory Service (SEAS)? _____yes _____no If yes, please attach a copy of their comments.

16. BEACH NOURISHMENT

Source of material: Willoughby Bank & Thimble Shoal	Volume of material: 2,365,935 cubic yards
Composition of material (percentage sand, silt, clay): 90% sand, 10% fines (silt/clay)	Mode of transportation of material to the project site (truck, pipeline, etc.): Pipeline

Describe the type(s) of vegetation proposed for stabilization and the proposed planting plan, including schedule, spacing, monitoring, etc. Attach additional sheets if necessary.

Atlantic Beach Grass, 2-3 culms/hole, spacing @ 1.5 to 2' on dunes. Planting will be started as soon as practical after construction. Also, Atlantic Coastal Panic Grass - 10% mix on backside of dune.

Specific Information for Plan View Drawing:
-channelward encroachment relative to mean high and mean low water lines
-dimensions of structures used to stabilize nourishment area
-label fill area and include square footage
-location of marsh vegetation to be used for stabilization, if applicable

Specific Information for Cross-Sectional Drawing:
-contour and slope of existing beach and of the nourished area
-groins, breakwaters or other structures existing or proposed to stabilize the nourished area
-elevation at the channelward end of the nourished area
-elevation of vegetation to be planted relative to mean high/mean low/ordinary high water

17. DREDGING, MINING, AND EXCAVATING

FILL OUT THE FOLLOWING TABLE FOR DREDGING PROJECTS

	NEW dredging				MAINTENANCE dredging			
	Hydraulic		Mechanical (clamshell, dragline, etc.)		Hydraulic		Mechanical (clamshell, dragline, etc.)	
	Cubic yards	Square feet	Cubic yards	Square feet	Cubic yards	Square feet	Cubic yards	Square feet
Vegetated wetlands	0	0						
Nonvegetated wetlands	0	0						
Subaqueous land	25,161,000	43,878,000						
Totals	25,161,000	43,878,000						

If maintenance, number of maintenance cycles anticipated: _____

Composition of material (percentage sand, silt, clay, rock): 90% sand, 10% fines (silt/clay)
Provide documentation that the dredged material is free of toxics, or documentation of proper disposal if toxic (i.e. bill of lading from commercial supplier or disposal site). *For DEQ permits, provide a Dredge Management Plan as per 9VAC25-[680, 690]-et seq.*

How will the dredged material be retained to prevent its re-entry into the waterway?
Material is clean and will be used for upland beach placement - during construction, temporary berms will be used to encourage settling to limit discharge of fines to waterway.

Will the dredged material be used for any commercial purpose or beneficial use? X yes _____no
If yes, please explain:
The purpose of the project is to abate a chronic shoreline erosion problem, increase protection to public and private property, provide storm protection, and restore the public beach.

If this is a maintenance dredging project, what was the date that the dredging was last performed? No.
Permit number of original permit: _____ *(It is important that you attach a copy of the original permit.)*

For mining projects: On separate sheets of paper, explain the operation plans, including: 1) the frequency (i.e., every six weeks, for example), duration (i.e., April through September), and volume (in cubic yards) to be removed per operation; 2) the temporary storage and handling methods of mined material, including the dimensions of the containment berm used for upland disposal of dredged material and the need (or no need) for a liner or impermeable material to prevent the leaching of any identified contaminants into ground water; 3) how equipment will access the mine site; and 4) verification that dredging: a) will not occur in waterbody segments that are currently on the effective Section 303(d) Total Maximum Daily Load (TMDL) priority list or that have an approved TMDL; b) will not exacerbate any impairment; and c) will be consistent with any waste load allocation/limit/conditions imposed by an approved TMDL.
Have you applied for a permit from the Virginia Department of Mines, Minerals and Energy? _____yes _____no

Contributing drainage area: N/A square miles

Average stream flow at site: N/A cfs

18. FILL IN WETLANDS/WATERS (not associated with backfilled shoreline structures)

Source of material:_____	Volume of fill below MHW: _____cubic yards OHW: _____cubic yards
Area of fill in vegetated wetlands: _____ square feet (tidal) _____square feet (nontidal)	
Source and composition of material (percentage sand, silt, clay, rock): Provide documentation that the fill material is free of toxics, or documentation of proper disposal if toxic (i.e. bill of lading from commercial supplier or disposal site).	
Explain the purpose of the filling activity and the type of structure to be constructed over the filled area (if any):	
If the filling activity is occurring in vegetated wetlands, name the receiving waterbody (or the nearest waterbody if work is occurring in a hydrologically isolated wetland): _____ What is the distance of the given waterbody from the proposed activity? _____	
Contributing drainage area: _____square miles	Average stream flow at site: _____cfs

19. INTAKE, OUTFALL, AND WATER CONTROL STRUCTURES (INCLUDING ALL PROPOSED WATER WITHDRAWAL ACTIVITIES)

INTAKE(S)	OUTFALL(S)
Type and size of pipe(s): N/A	Type and size of pipe(s): Varies from 24" to 48" - Extension lengths range from 65' to 145'
Daily rate of withdrawal: N/A mgd Velocity of withdrawal: N/A fps	Daily rate of discharge: Unchanged mgd
Screen mesh size: N/A inches _____mm _____other (please specify)	
If the discharge will be thermally-enhanced, provide the maximum temperature: N/A	
Contributing drainage area: same square miles	Average stream flow at site: unchanged cfs

On the table below, provide the median (not mean) monthly stream flows in cubic feet per second (cfs) at the water intake or dam site (not at the gauge). Median flow is the value at which half of the measurements are above and half of the measurements are below. Median is also sometimes referred to as the '50% exceedence flow'. The median flow generally must be calculated from USGS historical data.

Month	Median flow (cfs)	Month	Median flow (cfs)
January	unchanged	July	unchanged
February	unchanged	August	unchanged
March	unchanged	September	unchanged
April	unchanged	October	unchanged
May	unchanged	November	unchanged
June	unchanged	December	unchanged

19. INTAKE, OUTFALL, AND WATER CONTROL STRUCTURES (continued)

Describe the stream flow gauges used, the type of calculations used (such as drainage area coefficient correction factors), and the period of record that was used to calculate the mean flows provided in the figures in the table above. In addition, provide the average annual flow at the withdrawal point and any available historical low-flows.

N/A

Provide the maximum instantaneous withdrawal and maximum daily withdrawal at the water intake or dam site. Specify the units of measurement (i.e. million gallons per day, gallons per minute, cubic feet per second, etc.).

Maximum instantaneous withdrawal N/A
Average daily withdrawal N/A
Maximum daily withdrawal N/A
Maximum monthly withdrawal N/A
Maximum annual withdrawal N/A

Describe how the amount of water to be withdrawn was calculated; the relevant assumptions made in that calculation; and how the proposed withdrawal will impact flows in terms of flow reduction. The purpose of this section is to document the need for the water. Examples of documentation include population projections, growth rates, per-capita use rates, changes in unaccounted-for water attributed to leak detection, and disaggregating and re-aggregating water use by category. Document the source of any increase in population, for example, where Virginia Employment Commission (VEC) population projection figures are used. Document whether existing sources go off line and whether new sources come on line, for example, water sales from adjacent localities. Also, describe the proposed use of the water withdrawal.

N/A

Describe the manner in which the withdrawal of water varies over time. For example, as a function of the time of year, or the time of day, or time of week. Examples of projects that should describe variable use in detail include, but are not limited to: power plant cooling water withdrawals that increase and decrease seasonally; golf course irrigation; localities; nurseries; ski resorts that use water for snowmaking; and resorts with weekend or seasonal variations.

N/A

Describe below the amount of water that will be lost due to consumptive use. For the purpose of this application, consumptive use means the withdrawal of surface waters without recycling of said waters to their source or basin of origin. Examples of consumptive uses are water that is evaporated in cooling towers or in other means in power plants; irrigation water (all types); residential water use that takes place outside of the home; and residential water use both inside and outside of homes for residences served by septic systems. Localities that sell water to other jurisdictions should document the portion of the withdrawal that is not returned to the originating watershed. Attach a map showing the location of the withdrawal and the location of the return of flow.

N/A

On separate sheets of paper, describe:

1. The existing beneficial uses of the surface water body near the proposed project site that would be affected by the withdrawal of water. Include both instream and offstream uses. For the purposes of this application, beneficial instream uses include, but are not limited to: the protection of fish and wildlife habitat; maintenance of water assimilation; recreation; navigation; and cultural and aesthetic values. Offstream beneficial uses include, but are not limited to: domestic (including public) water supply; agricultural; hydropower; and commercial and industrial uses. Describe the stream flow necessary to protect existing beneficial uses and how the proposed withdrawal will impact existing beneficial uses.
2. The aquatic life known to be present in the proposed project area, and that which may be impacted by the proposed water withdrawal. Include the species' habitat requirements.

20. NONTIDAL STREAM CHANNEL MODIFICATIONS

Contributing drainage area: _____square miles

Existing average stream flow at site: _____cfs	Proposed average stream flow at site (after modifications): _____cfs

Explain, in detail, the method to be used to stabilize the banks (attach additional sheets if needed):

Explain the composition of the existing stream bed (percent cobble, rock, sand, etc.):

Will low-flow channels be maintained in the modified stream channel? _____yes _____no.
Describe how:

Will any structure(s) be placed in the stream to create riffles, pools, meanders, etc.? _____yes _____no
If yes, please explain:

21. IMPOUNDMENTS, DAMS, AND STORMWATER MANAGEMENT FACILITIES

What type of materials will be used in the construction (earth, concrete, rock, etc.)? _____
What is the source of these materials? _____

Storage capacity* of impoundment: _____acre-feet *should be given for the normal pool of recreational/farm ponds or design pool for stormwater management ponds/reservoirs	Surface area* of impoundment: _____acres *should be given for the normal pool of recreational/farm ponds or design pool for stormwater management ponds/reservoirs

For stormwater management facilities:
Design storm event: _____year storm Retention time: _____hours

Current average flow: _____cfs	Proposed outflow: _____cfs

Will the impoundment structure be designed to pass a minimum flow at all times? _____yes _____no
If so, please give the minimum rate of flow: _____cfs

What is the drainage area upstream of the proposed impoundment? _____square miles

21. IMPOUNDMENTS, DAMS, AND STORMWATER MANAGEMENT FACILITIES (continued)

Does your proposed project comply with the Virginia Dam Safety Regulations? _____yes _____no
If your answer is "no," or if you are uncertain, you should contact the Virginia Department of Conservation and Recreation's Dam Safety Program at (804) 371-6095, or reference the regulations on the Web at http://www.dcr.virginia.gov/sw/damsafty.htm

How much of your proposed impoundment structure will be located on the stream bed? _____square feet
What is the area of vegetated wetlands that will be backflooded by the impoundment? _____ square feet
What is the area and length of streambed that will be backflooded by the impoundment? _____ square feet (_____linear feet)

Are fish ladders being proposed to accommodate the passage of fish? _____yes _____no

If you are proposing a stormwater management facility, has the facility been designed as an Enhanced Extended Detention Basin or an Extended Detention Basin in accordance with the Minimum Standard 3.07 of the Virginia Stormwater Management Handbook, Volume I (published by the Virginia Department of Conservation and Recreation, 1999)? _____yes _____no

22. UTILITY CROSSINGS

Type of crossing: _____overhead _____trenched _____directionally-drilled

Method of clearing corridor of vegetation: _____ mechanized landclearing _____ cutting vegetation above the soil surface

Describe the materials to be used in the installation of the utility line (including gravel bedding for trenched installations, bentonite slurries used during direction-drilling, etc.) and a sequence of events to detail how the installation will be accomplished (including methods used for in-stream and dry crossings).

For overhead crossings over navigable waterways (including all tidal waterways), please indicate the height of other overhead crossings or bridges over the waterway relative to mean high water, mean low water, or ordinary high water:

Nominal system voltage, if project involves power lines: _____

Will there be an excess of excavated material? _____yes _____no
If so, describe the method that will be undertaken to dispose of, and transport, the material to its permanent disposal location and give that location:

Will any excess material be stockpiled in wetlands? _____yes _____no
If so, will the stockpiled material be placed on filter fabric or some other type of impervious surface? _____yes _____no

Drainage area above site: _____square miles	Average stream flow at site: _____cfs

23. ROAD CROSSINGS

On separate sheets of paper, describe the materials to be used, the method of construction (including the use of cofferdams), and the sequence of construction events.

Drainage area above site: _____square miles	Average stream flow at site: _____cfs

Have you conducted hydraulic studies to verify the adequacy of the culverts? _____yes _____no
If so, please attach a copy of the hydraulic study/report.
Virginia Department of Transportation (VDOT) standards require that the backwater for a 100 year storm not exceed 1 foot for all road, culvert, and bridge projects within FEMA-designated floodplains.

Will the culverts be countersunk six inches below the pre-construction stream invert elevation? _____yes _____no

If the project entails a bridged crossing and there are similar crossings in the area, what is the vertical distance above mean high water, mean low water, or ordinary high water of those similar structures? _____feet above _____
For all bridges proposed over navigable waterways (including all tidal waterbodies), you will be required to contact the U.S. Coast Guard to determine if a permit is required of their agency.

24. PRIVATE AND COMMERCIAL AQUACULTURE ACTIVITIES

Briefly describe your proposed aquaculture activity from the time of acquisition (seed, fingerlings, etc.) to time of harvest, and indicate which species you intend to culture. Attach additional sheets if needed.

Source of the animals/plants that you want to culture: _____

Note: VMRC Regulation 4VAC 20-754 et seq. "Pertaining to the Importation of Fish, Shellfish or Crustacea" sets forth the requirements for importing organisms from out of state.

Describe below the number, type, and dimensions of the structures that will be used (e.g., 4' x 2' x 18" floats, 3' x 3' x 1' bottom cages, etc.) and the overall dimensions of the area to be occupied by the aquaculture structures (e.g., two 40-foot by 10-foot bottom plots).

Will the structures be affixed to an existing structure? ____yes _____no
If so, describe the attachment below.

Will the structures be located on leased oyster planting ground? _____yes _____no
If so, give the following information: _____lease number _____plat file number

Will permanent access roads be placed through wetlands/streams? ____yes _____no
If yes, will the roads be _____at grade or _____above grade (check one)?

Will the utility line through wetlands/waters be continually maintained (e.g. via mowing or herbicide)? ____yes _____no

If maintained, what is the maximum width? _____feet

APPENDIX A

General Instructions for Drawings

All projects will require the submittal of both plan view and cross-section view drawings. These drawings should be drawn to a scale no smaller than 1 inch = 200 feet. The number of sets of drawings to be submitted is detailed in the HOW TO APPLY section starting on page 2 of this package. Drawings can be computer-generated or hand-drawn. Please be advised that some Local Wetlands Boards (LWB) require you to have a licensed engineer certify the drawings. You should contact your LWB to determine their specific requirements.

***Plan view** drawings should contain the following general informational items:*

- Name of project
- North arrow
- Scale
- Waterway name, if designated
- Existing and proposed contours
- Width of waterway from the mean high water level to the mean high water level (tidal areas), or the ordinary water level to the ordinary water level (nontidal areas)
- For piers that cover ¼ or more of the waterway width: depth soundings, taken at the mean low water level (tidal areas) or the ordinary water level (nontidal areas)
- Direction of flood and ebb (tidal areas), and/or direction of flow in nontidal areas (if applicable)
- Mean low water level and mean high water level (tidal areas), or ordinary water level (nontidal areas)

Plan view** drawings should also contain the following specific informational items **if they apply to your particular project:

Resource Impact/Protection-Specific Items:

- Limits: of vegetated wetlands, including submerged aquatic vegetation (SAV); of Chesapeake Bay Preservation Act Resource Protection Area(s) (RPA), including the 100-foot buffer; of proposed clearing within the RPA buffer
- Location and type of existing vegetation within the 100-foot RPA buffer; location of proposed wetland planting areas (as restoration for temporary impacts or mitigation for permanent impacts); locations of existing and proposed stream channel(s), including all proposed riffle/pool complexes, bars, and bank stabilization structures; location of proposed riprap scour protection
- Historic/cultural resources

Structure/Project-Specific Items:

- Existing and proposed structures, labeled as 'existing' and 'proposed', and their dimensions. These items may include fill areas, labeled with square footage(s) or acreage(s); pier(s), including L-heads, T-heads, platforms, and/or decks; roof(s) on roofed structures located over waterways, including boathouses; gasoline storage tanks and/or structures for collecting and handling hazardous material, including settling tanks for travel lift washdown water, paint chips, etc.; return walls; tie-ins to existing bulkhead(s) or riprap; utility line easement(s); utility line/road right(s)-of-way; aerial transmission line structure(s), including towers, poles, platforms, etc.; dredge areas; onsite or offsite dredged material disposal areas, including location of all berms, spillways, erosion and sediment control measures, outfall pipes, and aprons; temporary stockpiles of excavated material; temporary construction access facilities; risers and/or emergency spillways, labeled with their proposed invert elevations; design pool/normal pool for stormwater management ponds/impoundments/reservoirs; intakes and/or outfalls, including splash aprons, relative to mean high water, mean low water, or ordinary water level(s); anchoring devices and weights (mooring buoys), including the total swing radius
- Channelward encroachment of proposed structure(s) from mean high water and mean low water, or from ordinary high water level
- Distance(s) between structure(s) (piers, boathouses, catwalks, etc.) and mooring pile(s)
- Minimum distance between dredge cut and vegetated wetlands
- Latitude and longitude of all mooring structures, in degrees, minutes, and seconds
- End points and turning points along proposed bulkhead(s), labeled as such
- For bulkheads, measurements from each end point and each turning point along proposed bulkhead(s) to two fixed points of reference (labeled as such)
- Structure or method used to contain fill (hay bales, silt fences, etc.)

***Cross-section view** drawings should contain the following General Informational items:*

- Name of project
- North arrow
- Scale
- Waterway name
- Mean low water and mean high water lines (tidal areas), and/or ordinary water level (nontidal areas)
- Direction of flood and ebb (tidal areas), and/or direction of flow in nontidal areas (if applicable)
- Existing contours of the bottom (depths relative to mean low water or ordinary water) and the bank itself

Cross-section view *drawings should also contain the following specific informational items* ***if they apply to your particular project****:*

Resource Impact/Protection-Specific Items:

- Riprap scour protection
- Proposed wetland planting areas, relative to mean high water and mean low water (tidal areas), or ordinary water level (nontidal areas)
- Depth of buried toe of riprap or marsh toe stabilization
- Base width, top width, and slope of stone/concrete stabilization structures

Structure/Project-Specific Items:

- Existing and proposed structures, labeled as 'existing' and 'proposed', and their dimensions. These items may include fill areas, labeled with square footage(s) or acreage(s) over vegetated wetlands and subaqueous bottom; berms, spillways, erosion and sediment control measures, outfall pipes, and aprons at onsite or offsite dredged material disposal area(s); bank grades; deadmen, sheeting, knee braces, etc., as used in the construction of bulkheads; filter cloth; weep holes; intakes and/or outfalls, including splash aprons, relative to mean high water, mean low water, or ordinary water level; risers and/or emergency spillways; low-flow channels; culverts, including their proposed invert elevations and diameters; anchoring systems for aquaculture structures; type of chain used to secure mooring buoys to subaqueous bottom
- For dredge projects, proposed contours of the bottom (depth relative to mean low water or ordinary water level)
- Bottom width of proposed dredge cut, projected side slope of cut, and estimated top width of cut
- Ponding depth of onsite or offsite dredged material disposal area
- Minimum distance between pier decking and vegetated wetland substrate (a.k.a. the "mud line")
- Water depth below mean low water at the end of proposed boat ramps
- Depth of penetration of pilings and/or sheeting (bulkheads)
- Elevation of any proposed fill (including backfill)
- Structure or method used to contain fill (hay bales, silt fences, etc.)
- Design pool/normal pool elevation for stormwater management facilities/impoundments/reservoirs
- Vertical distance from the water surface (relative to mean high water or ordinary high water) for all aerial crossings (bridges or overhead utility lines) over navigable waterbodies
- Depth below bottom of waterbody for submarine utility crossings

APPENDIX B

Adjacent Property Owner's Acknowledgement Form

I, _____, own land next to/ across the water from/ in the same cove
(print adjacent property owner's name)

as the land of _____ .
(print applicant's name)

I have reviewed the applicant's project drawings dated _____ to be submitted for all
(date of drawings)

necessary Federal, State, and Local permits.

_____ I have no comment regarding the proposal

_____ I do not object to the proposal

_____ I object to the proposal

The applicant has agreed to contact me for additional comments if the proposal changes prior to construction of the project.

(Before signing this form, please be sure that you have checked the appropriate option above)

_____
Adjacent property owner's signature

_____
Date

NOTE: IF YOU OBJECT TO THE PROPOSAL, THE REASON(S) YOU OPPOSE THE PROJECT MUST BE SUBMITTED TO VMRC IN WRITING. AN OBJECTION WILL NOT NECESSARILY RESULT IN A DENIAL OF A PERMIT FOR THE PROPOSED WORK. HOWEVER, VALID COMPLAINTS WILL BE GIVEN FULL CONSIDERATION DURING THE PERMIT REVIEW PROCESS.

APPENDIX B

Adjacent Property Owner's Acknowledgement Form

I, _____, own land next to/ across the water from/ in the same cove
(print adjacent property owner's name)

as the land of _____ .
(print applicant's name)

I have reviewed the applicant's project drawings dated _____ to be submitted for all
(date of drawings)

necessary Federal, State, and Local permits.

_____ I have no comment regarding the proposal

_____ I do not object to the proposal

_____ I object to the proposal

The applicant has agreed to contact me for additional comments if the proposal changes prior to construction of the project.

(Before signing this form, please be sure that you have checked the appropriate option above)

_____
Adjacent property owner's signature

_____
Date

NOTE: IF YOU OBJECT TO THE PROPOSAL, THE REASON(S) YOU OPPOSE THE PROJECT MUST BE SUBMITTED TO VMRC IN WRITING. AN OBJECTION WILL NOT NECESSARILY RESULT IN A DENIAL OF A PERMIT FOR THE PROPOSED WORK. HOWEVER, VALID COMPLAINTS WILL BE GIVEN FULL CONSIDERATION DURING THE PERMIT REVIEW PROCESS.

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APPENDIX C

CHECKLIST AND CERTIFICATE OF COMPLIANCE FOR CORPS OF ENGINEERS, NORFOLK DISTRICT, REGIONAL PERMIT 17 (RP-17) FOR PRIVATE PIERS

__Yes __No 1. Is the proposed pier for private use only?

__Yes __No 2. Does the proposed pier extend less than ¼ the width of the waterway as measured from MHW to MHW or OHW to OHW (including channelward wetlands) based on the narrowest distance across the waterway regardless of the orientation of the proposed pier? (MHW = mean high water line; OHW = ordinary high water line)

__Yes __No 3. Does the proposed pier and/or mooring structures extend less than 300 feet from mean high water or ordinary high water?

__Yes __No 4. If the proposed structure crosses wetland vegetation, is it an open-pile design that is no more than a maximum of 5-feet wide and not less than a minimum of 4-feet high between the decking and the wetland substrate?

__Yes __No 5. If the proposed pier is to include an attached open-sided roof designed to shelter a single boat slip or lift, is it less than 700 square feet?

__Yes __No 6. Have you confirmed that the proposed construction will not be constructed in one of the reaches, as listed in Provision (g) of the permit, which serve as habitat for federally listed threatened or endangered species?

__Yes __No 7. If the proposed pier and/or mooring piles is in one of the waterways which have Corps Federal Project Channels, as listed in Provision (h), is there the required 85-foot setback from the toe of the slope of the federally maintained channel, unless otherwise noted?

__Yes __No 8. If the proposed work is in portions of any waterways listed in Special Condition 3, have you obtained an easement to cross government property from the Army Corps of Engineers Real Estate Branch?

IF YOU HAVE ANSWERED "NO" TO ANY OF THE QUESTIONS ABOVE, THE REGIONAL PERMIT 17 WILL NOT APPLY AND YOU WILL NEED TO SUBMIT A JOINT PERMIT APPLICATION AND OBTAIN A SEPARATE PERMIT FROM THE CORPS BEFORE COMMENCING CONSTRUCTION.

IF YOU HAVE ANSWERED "YES" TO ALL OF THE QUESTIONS ABOVE, YOU ARE IN COMPLIANCE WITH THE REGIONAL PERMIT 17. PLEASE SIGN BELOW. THIS SIGNED CERTIFICATE IS YOUR LETTER OF AUTHORIZATION FROM THE CORPS. YOU WILL NOT RECEIVE ANY OTHER WRITTEN AUTHORIZATION FROM THE CORPS. YOU MAY NOT PROCEED WITH CONSTRUCTION UNTIL YOU HAVE OBTAINED ALL OTHER NECESSARY STATE AND LOCAL PERMITS.

I CERTIFY THAT I HAVE READ AND UNDERSTAND ALL CONDITIONS OF THE REGIONAL PERMIT (RP-17), DATED AUGUST 14, 2003, ISSUED BY THE ARMY CORPS OF ENGINEERS, NORFOLK DISTRICT, NORFOLK, VIRGINIA.

_____
Signature of Property Owner or Agent

_____
Date

Proposed work to be located at:
_____
_____
_____
_____

Copies of the RP-17 can be obtained on our website at http://www.nao.usace.army.mil/Regulatory/RBregional.htm or by contacting the Corps at (757) 201-7652.

APPENDIX D

Chesapeake Bay Preservation Act Information

Please answer the following questions to determine if your project is subject to the requirements of the Bay Act Regulations:

1. Is your project located within Tidewater Virginia? X yes ____no (See map on next page)
   - If the answer is "no", the Bay Act requirements do not apply; if "yes", then please continue to question #2.

2. Please indicate if the project proposes to impact any of the following Resource Protection Area (RPA) features:

   ____ tidal wetlands,

   ____ nontidal wetlands connected and contiguous to tidal wetlands or water bodies with perennial flow,

   X tidal shoreline,

   ____ water body with perennial flow (stream, river, creek, etc.)

   ____ 100-foot buffer area landward of any of the above features.

   ____ "other lands" as designated by the locality (contact the local government for specific information)

If the answer to question #1 was "yes" and any of the features listed under question #2 will be impacted, compliance with the Chesapeake Bay Act and Regulations is required. To achieve compliance with the Bay Act, the applicant must submit a Water Quality Impact Assessment (WQIA) for the review and approval of the local government.

The individual localities, not the Local Wetlands Boards, are responsible for enforcing Bay Act requirements and, therefore, local permits for land disturbance are not issued through this JPA process. **Approval of this wetlands permit does not constitute compliance with the Bay Act Regulations nor does it guarantee that the local government will issue land-disturbing permits for this project**. The requirements of the Bay Act may affect the ultimate design and construction of projects. In order to ensure that these requirements are considered early in the permitting process, and to avoid unnecessary and costly delays, applicants should contact their local government as early in the process as possible. Individual localities may request information regarding existing vegetation within the RPA as well as a description and site drawings of any proposed land disturbance, construction, or vegetation clearing. Locality staff charged with ensuring compliance with the Bay Act will then evaluate project proposals and advise their Local Wetlands Boards or other appropriate parties of applicable Bay Act issues.

Notes for all projects in RPAs

1. Development, construction, land disturbance, or placement of fill within RPA features requires a review from the locality and may require an exception or variance from the local Bay Act program or zoning ordinance. Please contact the appropriate local government to determine the types of development or land uses that are permitted within RPAs.
2. Pursuant to § 9VAC 10-20-105, on-site delineation of the RPA is required for all projects in CBPAs. Because USGS maps are not always indicative of actual "in-field" conditions, they may not be used to determine the site-specific boundaries of the RPA.

Notes for shoreline erosion control projects in RPAs

Re-establishment of woody vegetation in the buffer may be required to mitigate for the removal or disturbance of buffer vegetation associated with your proposed project. Please contact the local government to determine the mitigation requirements for impacts to the 100-foot RPA buffer.

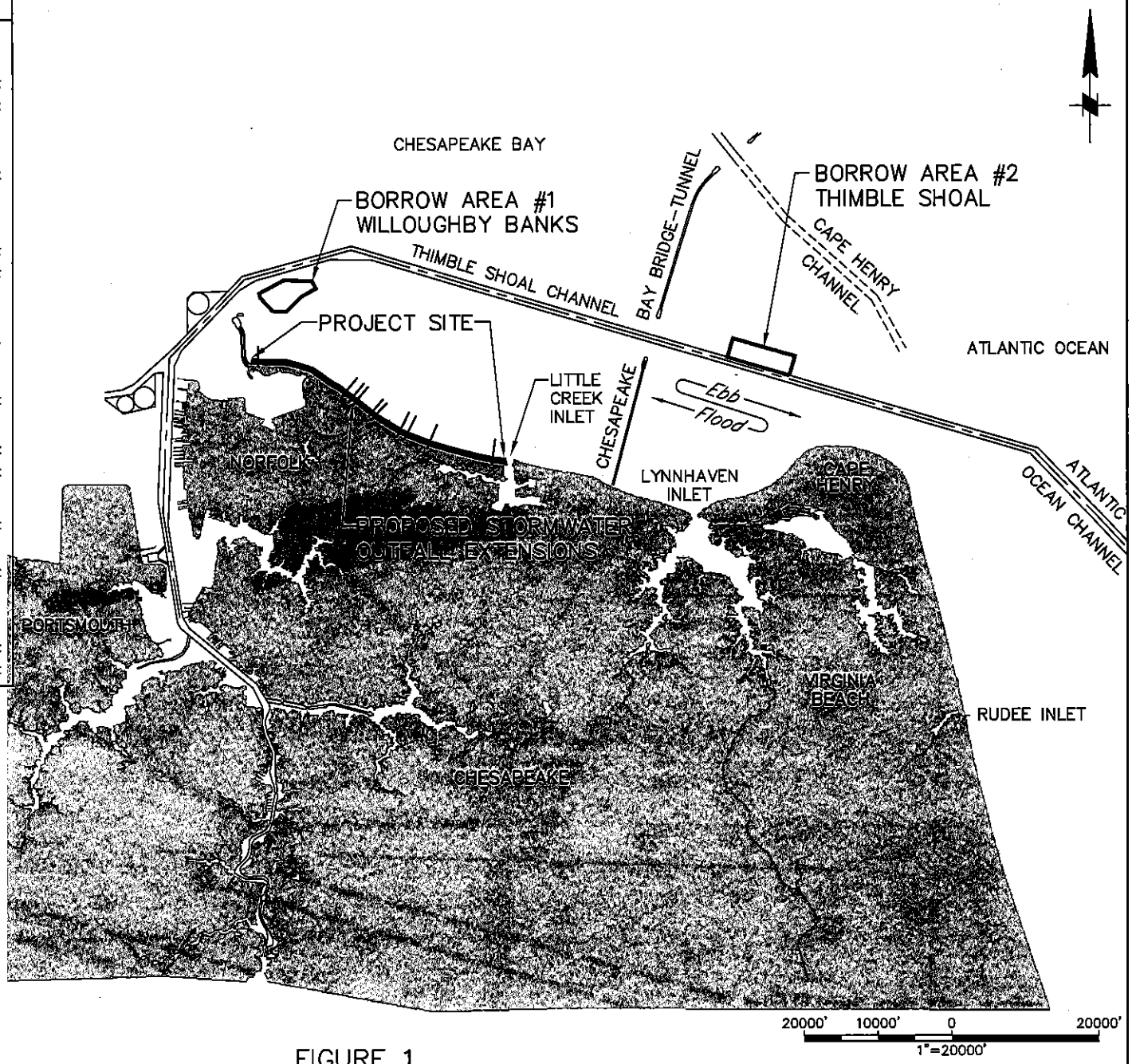
Pursuant to § 9VAC 10-20-130.5.a(4), § 9VAC 10-20-130.1, and § 9VAC 10-20-120 of the Virginia Administrative Code, the locality will use the information provided in this Appendix and in the project drawings, along with other information in this permit application, to make a determination that:

1. Any proposed shoreline erosion control measures are necessary and consistent with the nature of the erosion occurring on the site, and the measures have employed the "best available technical advice"
2. Indigenous vegetation will be preserved to the maximum extent practicable
3. Proposed land disturbance has been minimized
4. Appropriate mitigation plantings will provide the required water quality functions of the buffer (§ 9VAC 10-20-130.3)
5. The project is consistent with the locality's comprehensive plan
6. Access to the project will be provided with the minimum disturbance necessary.

TIDEWATER VIRGINIA

PROJECT STATISTICS	
PROPOSED DREDGING AREA AT BORROW AREA #1 (WILLOUGHBY BANKS)	19,978,240 SF± 459 ACRES±
TOTAL AVAILABLE DREDGING VOLUME AT AREA #1 (WILLOUGHBY BANKS)	13,077,166 CY±
PROPOSED DREDGING AREA AT BORROW AREA #2 (THIMBLE SHOAL)	23,899,681 SF± 549 ACRES±
TOTAL AVAILABLE DREDGING VOLUME AT AREA #2 (THIMBLE SHOAL)	12,084,000 CY
PROPOSED BEACH FILL LENGTH	38,100 LF±
PROPOSED BEACH FILL AREA	16,620,836 SF± 382 ACRES±
PROPOSED TOTAL BEACH FILL VOLUME	2,365,935 CY±
PROPOSED VOLUME OF MATERIAL SEAWARD OF EXISTING MLW LINE	1,695,965 CY±
PROPOSED FOOTPRINT BOTTOM AREA OF MATERIAL SEAWARD OF EXISTING MLW LINE	10,898,921 SF± 250 ACRES±

MHW = +0.98 FT NAVD88
MLW = −1.57 FT NAVD88



City of Norfolk
Department of Public Works

FIGURE 1
OVERALL DREDGING, BEACH NOURISHMENT AND STORMWATER OUTFALL EXTENSION PLANS

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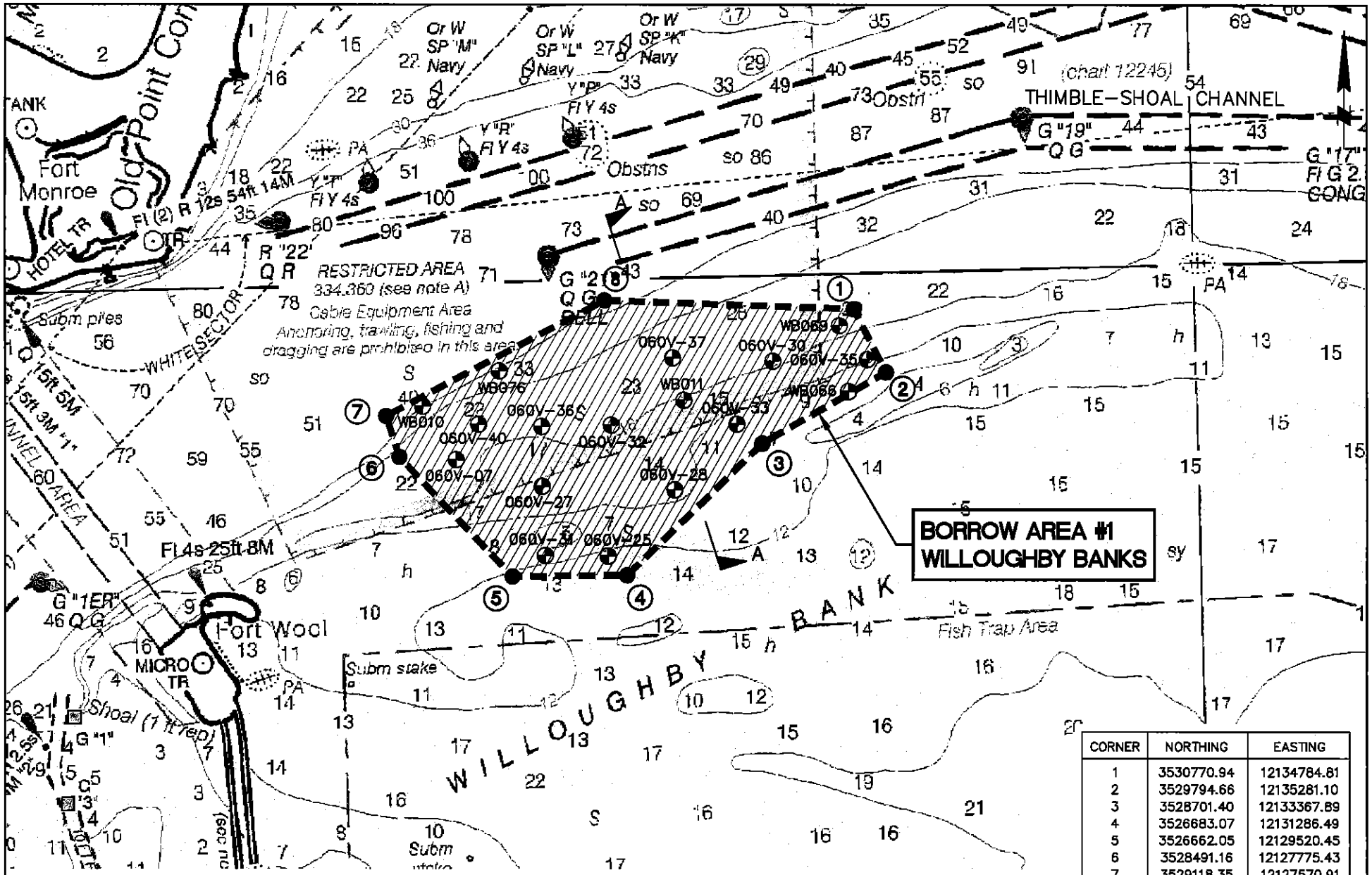

CORNER	NORTHING	EASTING
1	3530770.94	12134784.81
2	3529794.66	12135281.10
3	3528701.40	12133367.89
4	3526683.07	12131286.49
5	3526662.05	12129520.45
6	3528491.16	12127775.43
7	3529118.35	12127570.91
8	3530900.97	12130940.59

2000' 1000' 0 2000'
1"=2000'

NOTES:
1. BACKGROUND IS NOAA CHART NO. 12222. SOUNDINGS ARE IN FEET REFERENCED TO MLLW.
2. VIBRACORES COLLECTED IN MAY 2006 (060V) AND 1982 (WB).

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FIGURE 2
BORROW AREA #1
WILLOUGHBY BANKS

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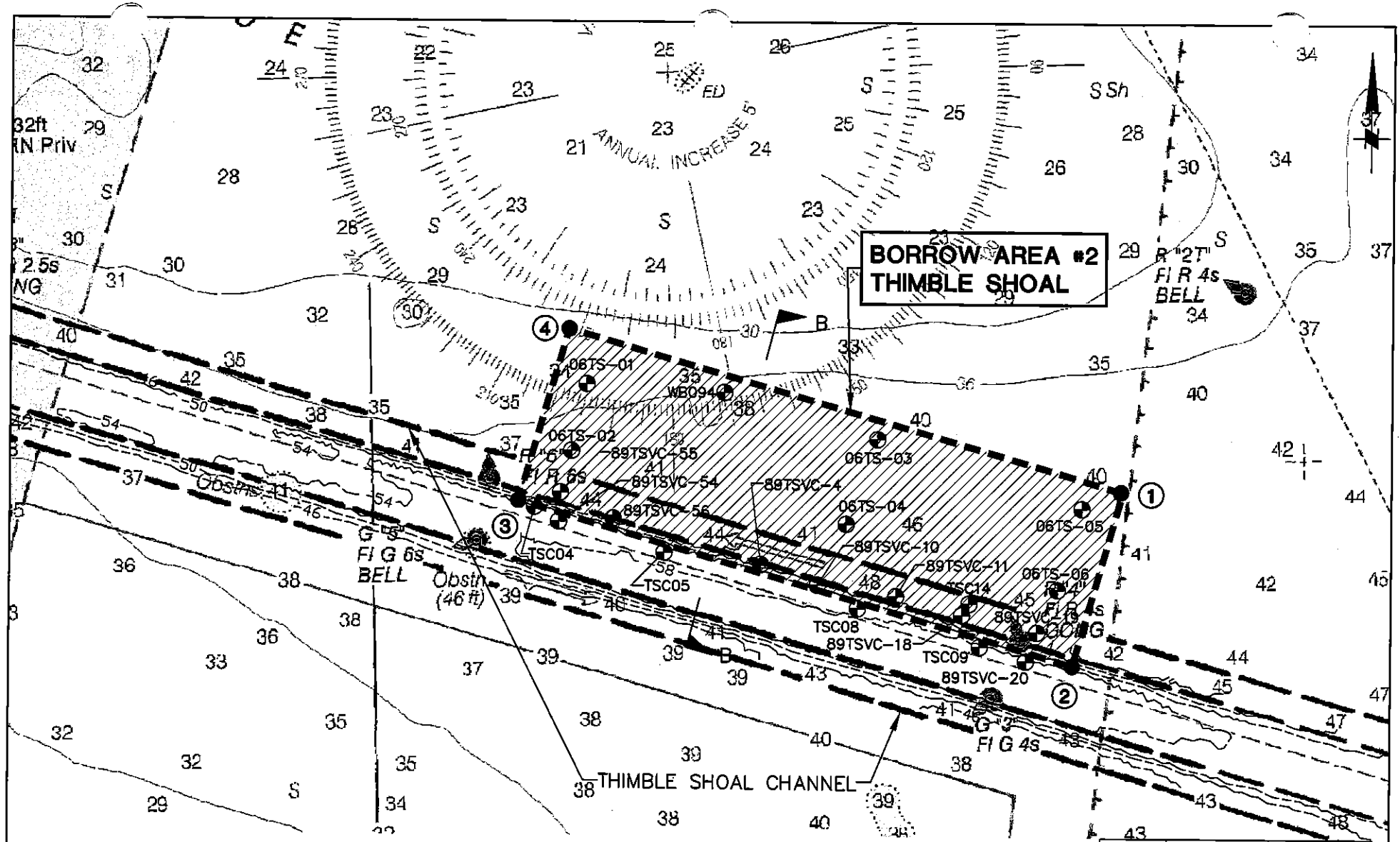

NOTES:
1. BACKGROUND IS NOAA CHART NO. 12222. SOUNDINGS ARE IN FEET REFERENCED TO MLLW.
2. SURVEY CONTOURS WITHIN THIMBLE SHOAL CHANNEL ARE POST-DREDGE SURVEYS FROM MARCH 2005. ELEVATIONS ARE IN FEET BELOW MLLW.
3. VIBRACORES COLLECTED IN MAY 2006 (06TS), 1989 (TSVC), 1984 (TSC) AND 1982 (WB).

CORNER	NORTHING	EASTING
1	3520486.28	12200436.65
2	3517863.35	12199684.94
3	3520321.75	12191254.33
4	3522931.44	12192011.74

2000' 1000' 0 2000'
1"=2000'

FIGURE 3
BORROW AREA #2
THIMBLE SHOAL

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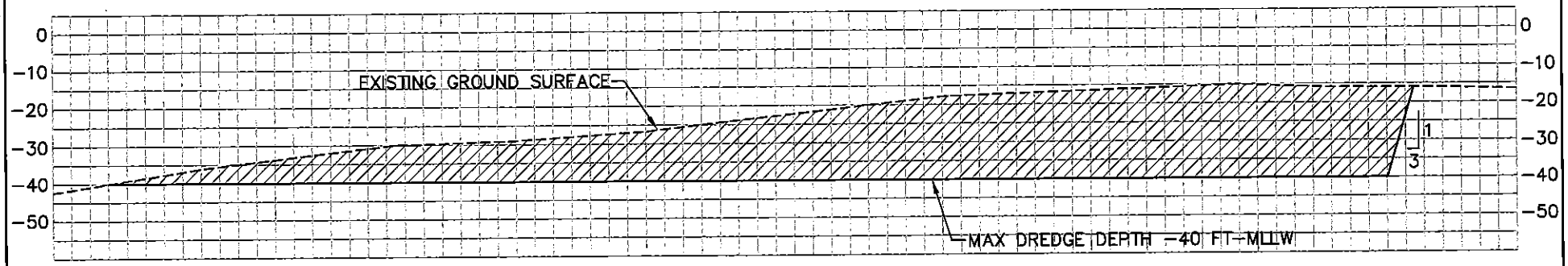
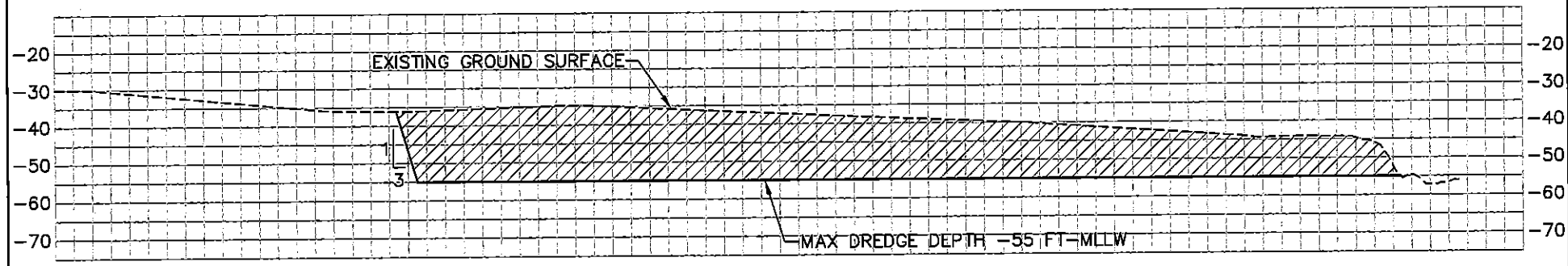


A-A WILLOUGHBY BANKS



B-B THIMBLE SHOAL

NOTES:
1. ALL ELEVATION DATA REFERENCED TO MEAN LOWER LOW WATER (MLLW).
2. EXISTING GROUND LINE BASED ON VIBRACORES COLLECTED IN MAY 2006.
3. ACTUAL DREDGE DEPTHS MAY EXCEED MAXIMUM DREDGE DEPTHS SHOWN ABOVE BY 2 TO 3 FEET.

FIGURE 4
TYPICAL SECTION IN
BORROW AREA #1 AND #2

400' 200' 0 400'
HORIZONTAL SCALE: 1"=400'

40' 20' 0 40'
VERTICAL SCALE: 1"=40'

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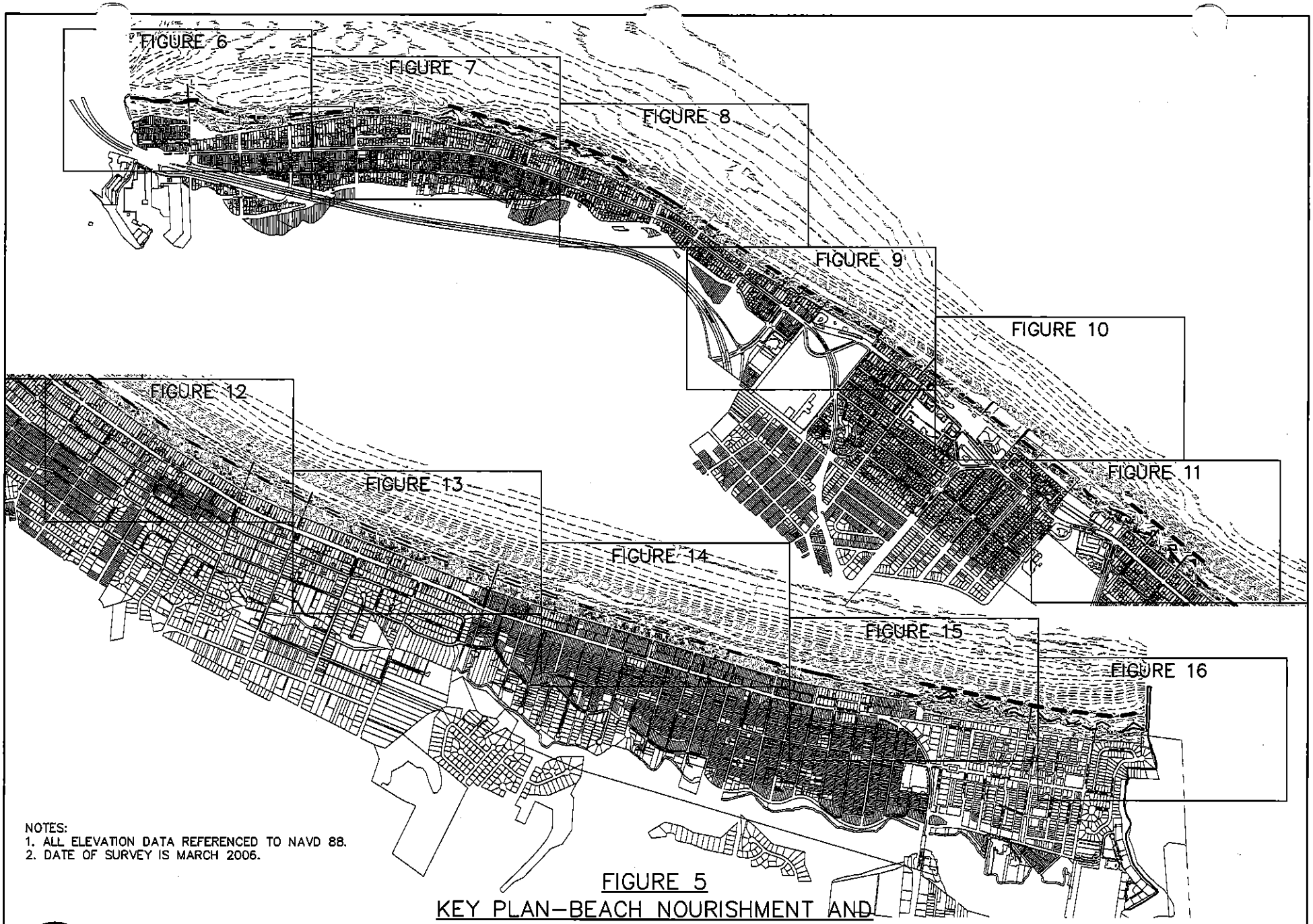

NOTES:
1. ALL ELEVATION DATA REFERENCED TO NAVD 88.
2. DATE OF SURVEY IS MARCH 2006.

FIGURE 5
KEY PLAN–BEACH NOURISHMENT AND STORMWATER OUTFALL EXTENSIONS

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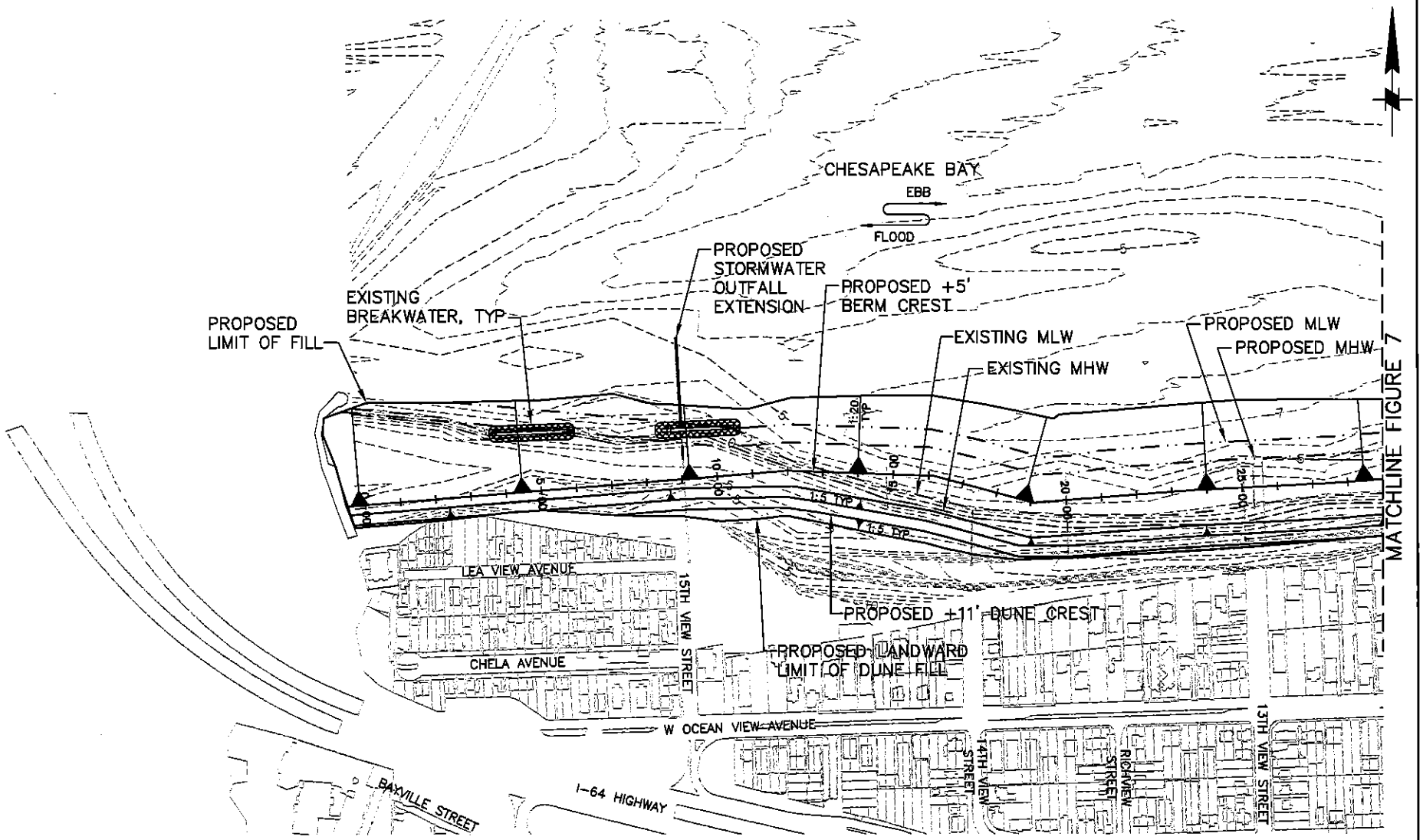

NOTES:
1. ALL ELEVATION DATA REFERENCED TO NAVD 88.
2. DATE OF SURVEY IS MARCH 2006.

FIGURE 6
BEACH NOURISHMENT AND STORMWATER OUTFALL EXTENSIONS DETAILED PLAN VIEW (1 OF 11)

400' 200' 0 400'
1"=400'

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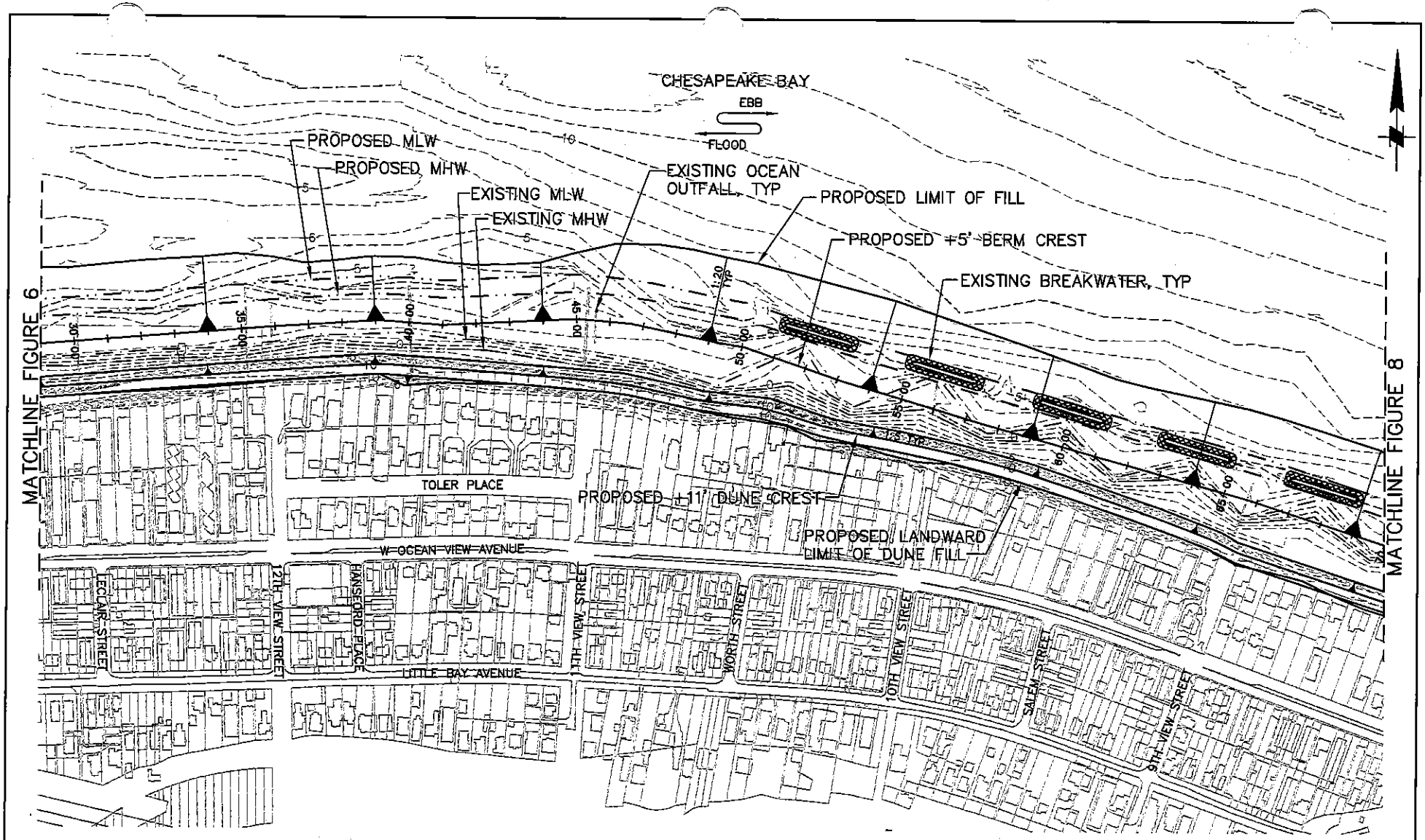
NORFOLK, VIRGINIA 23510
757-628-82[illegible]



NOTES:
1. ALL ELEVATION DATA REFERENCED TO NAVD 88.
2. DATE OF SURVEY IS MARCH 2006.

FIGURE 7
BEACH NOURISHMENT AND STORMWATER OUTFALL EXTENSIONS
DETAILED PLAN VIEW (2 OF 11)

400' 200' 0 400'
1"=400'

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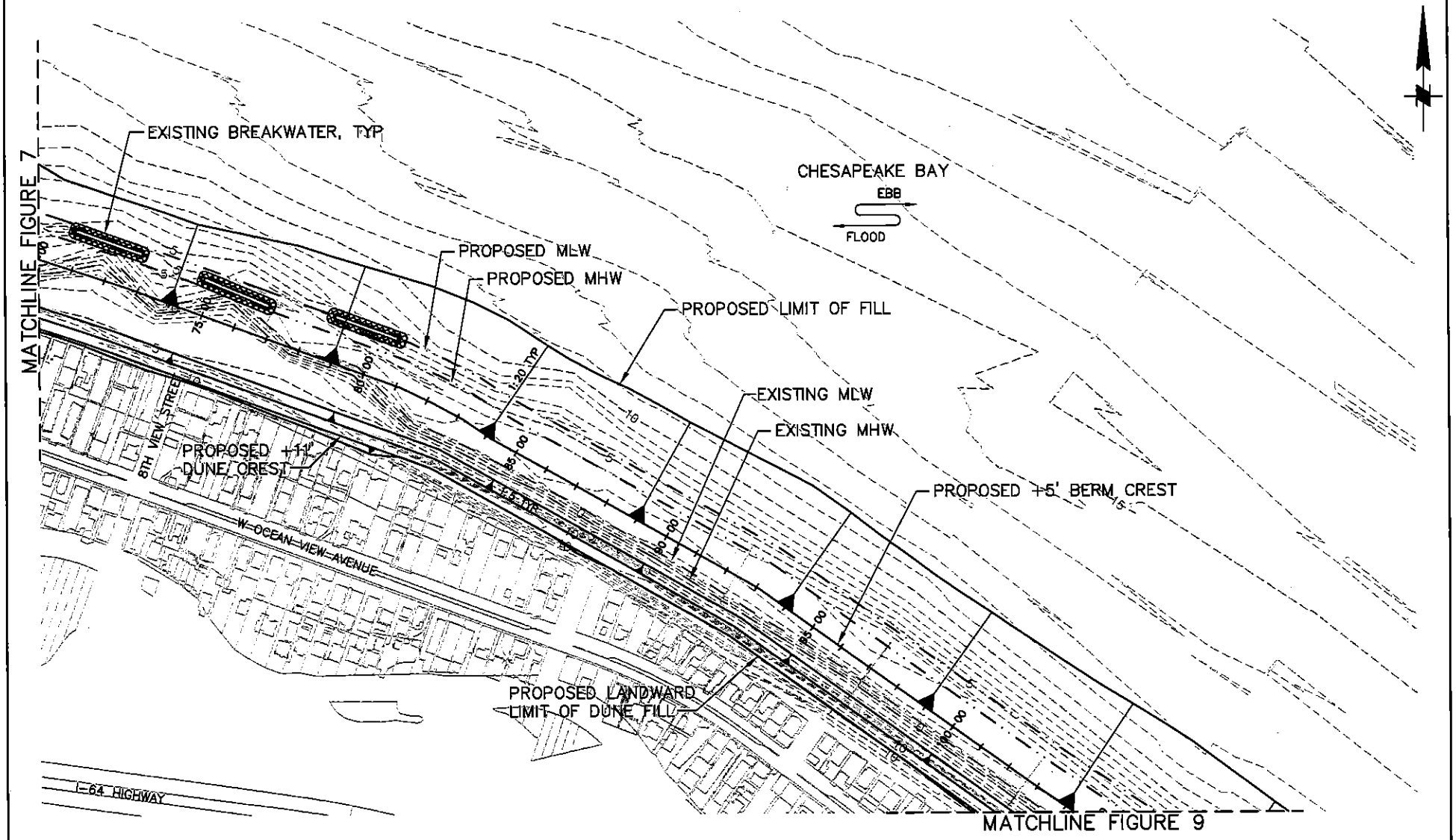

NOTES:
1. ALL ELEVATION DATA REFERENCED TO NAVD 88.
2. DATE OF SURVEY IS MARCH 2006.

FIGURE 8
BEACH NOURISHMENT AND STORMWATER OUTFALL EXTENSIONS DETAILED PLAN VIEW (3 OF 11)

400' 200' 0 400'
1"=400'

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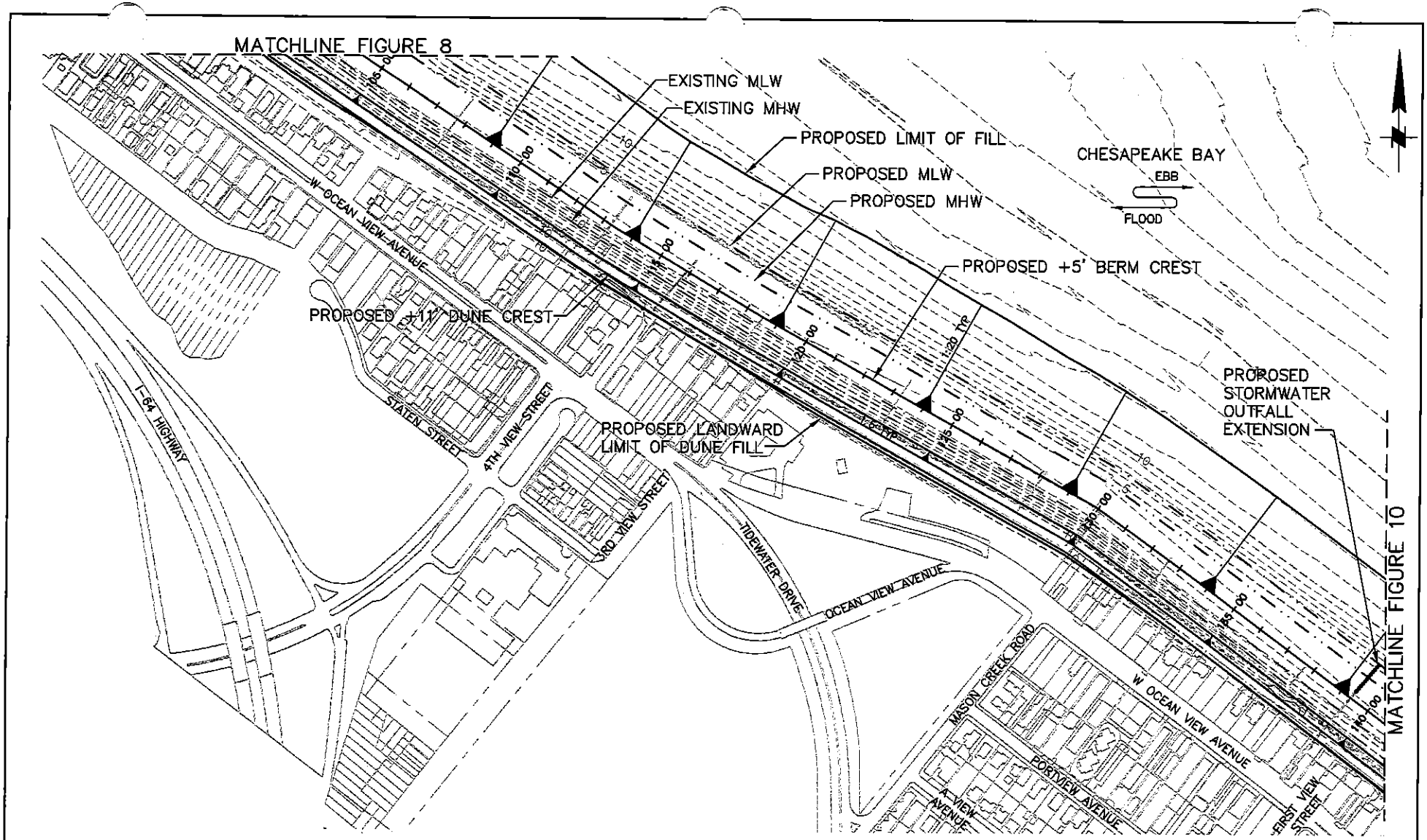

NOTES:
1. ALL ELEVATION DATA REFERENCED TO NAVD 88.
2. DATE OF SURVEY IS MARCH 2006.

FIGURE 9
BEACH NOURISHMENT AND STORMWATER OUTFALL EXTENSIONS DETAILED PLAN VIEW (4 OF 11)

400' 200' 0 400'
1"=400'

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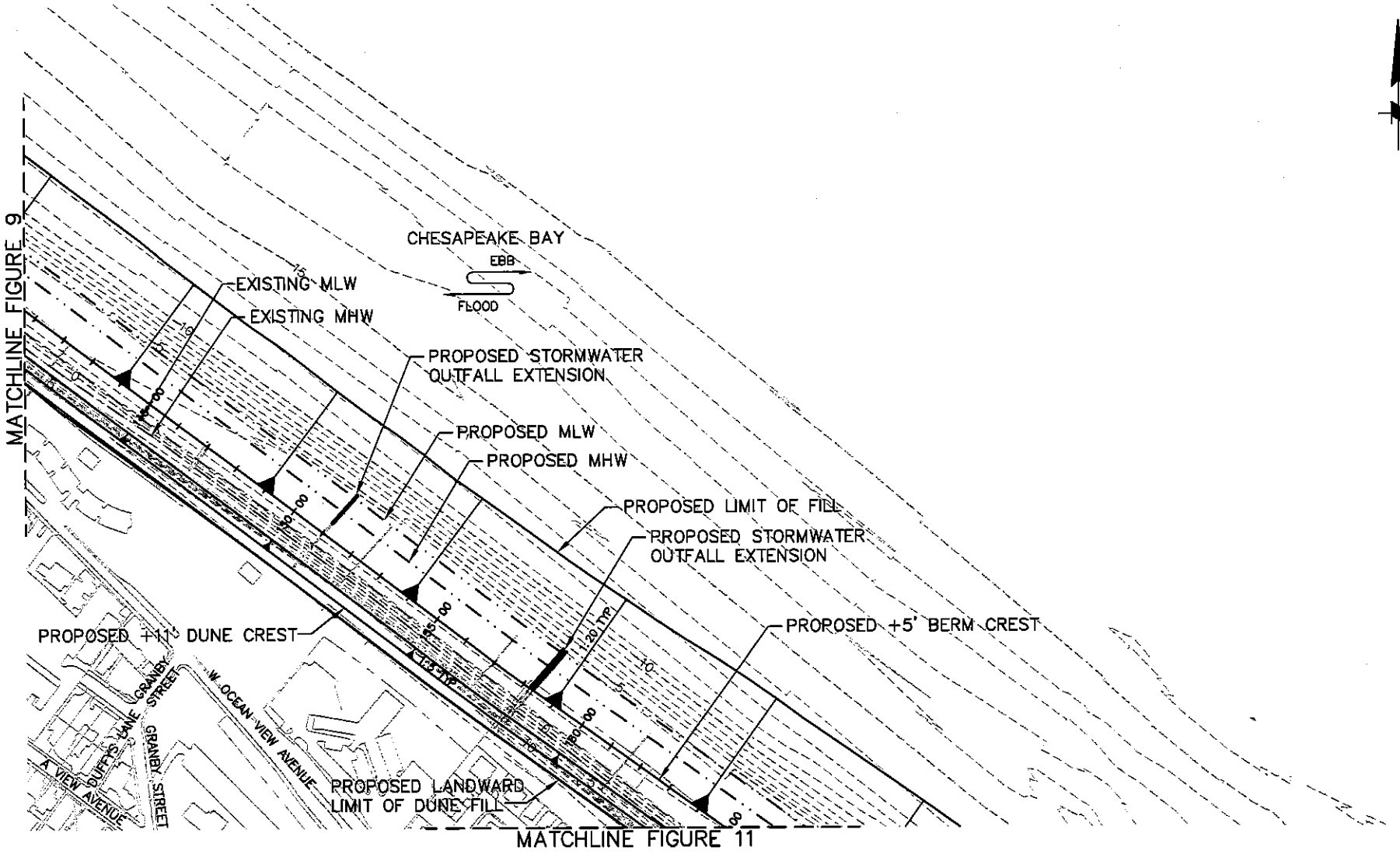


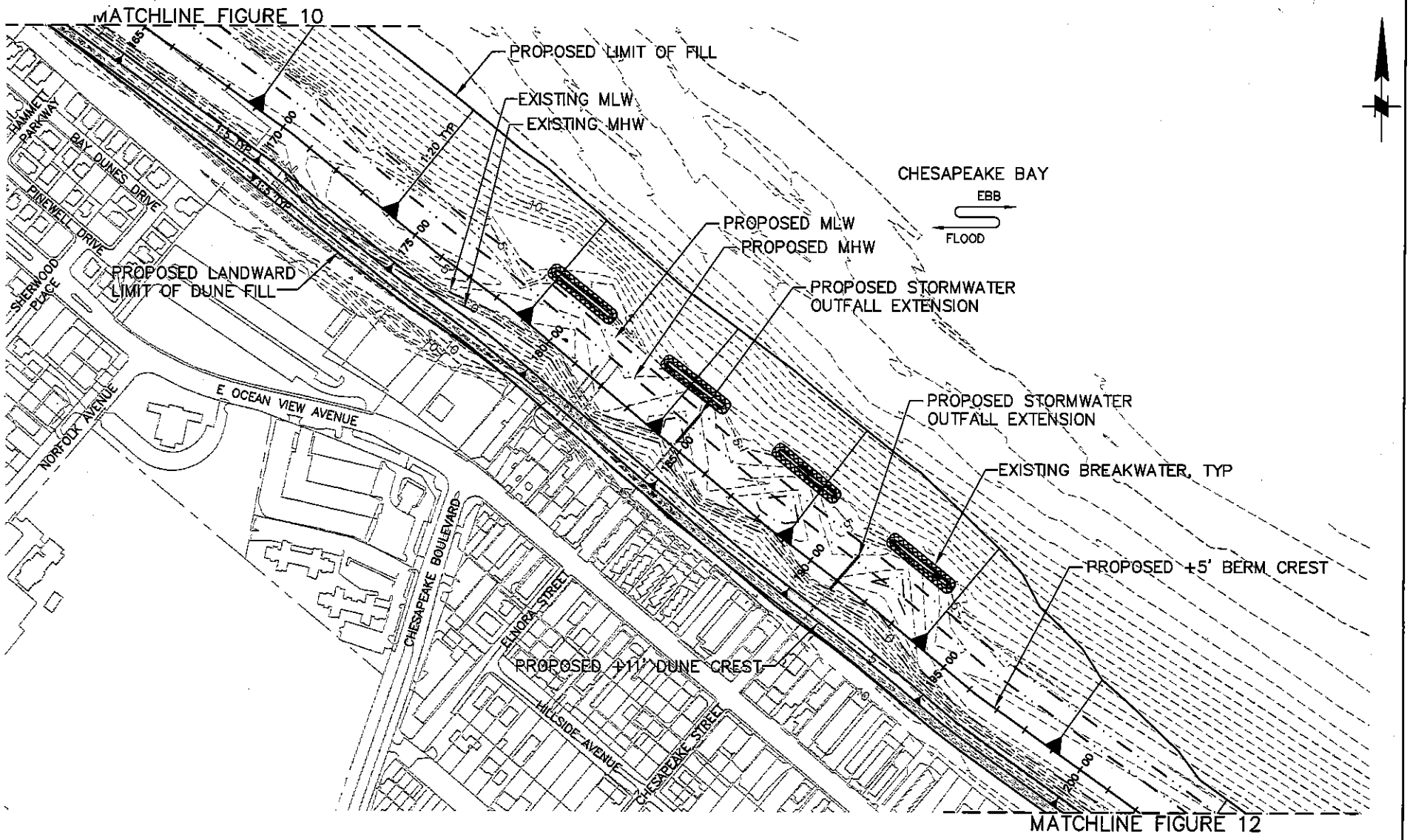
NOTES:
1. ALL ELEVATION DATA REFERENCED TO NAVD 88.
2. DATE OF SURVEY IS MARCH 2006.

FIGURE 10
BEACH NOURISHMENT AND STORMWATER OUTFALL EXTENSIONS
DETAILED PLAN VIEW (5 OF 11)

400' 200' 0 400'
1"=400'

City of Norfolk
Department of Public Works

MOFFATT & NICHOL
440 WORLD TRADE CENTER
NORFOLK, VIRGINIA 23510
757-628-82



NOTES:
1. ALL ELEVATION DATA REFERENCED TO NAVD 88.
2. DATE OF SURVEY IS MARCH 2006.

FIGURE 11
BEACH NOURISHMENT AND STORMWATER OUTFALL EXTENSIONS DETAILED PLAN VIEW (6 OF 11)

400' 200' 0 400'
1"=400'

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Department of Public Works

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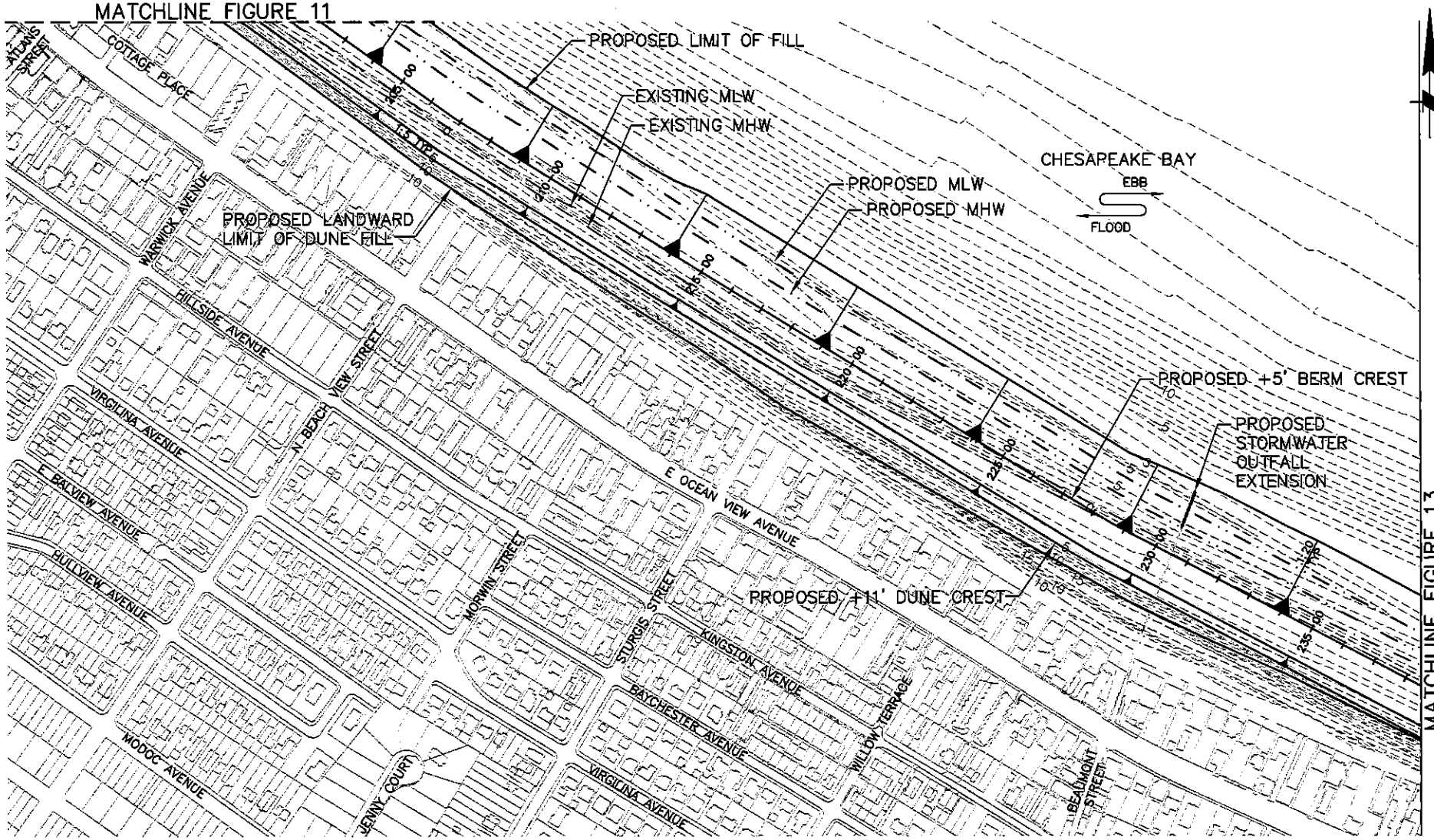
440 WORLD TRADE CENTER
NORFOLK, VIRGINIA 23510
757-628-8222



NOTES:
1. ALL ELEVATION DATA REFERENCED TO NAVD 88.
2. DATE OF SURVEY IS MARCH 2006.

FIGURE 12
BEACH NOURISHMENT AND STORMWATER OUTFALL EXTENSIONS DETAILED PLAN VIEW (7 OF 11)

400' 200' 0 400'
1"=400'

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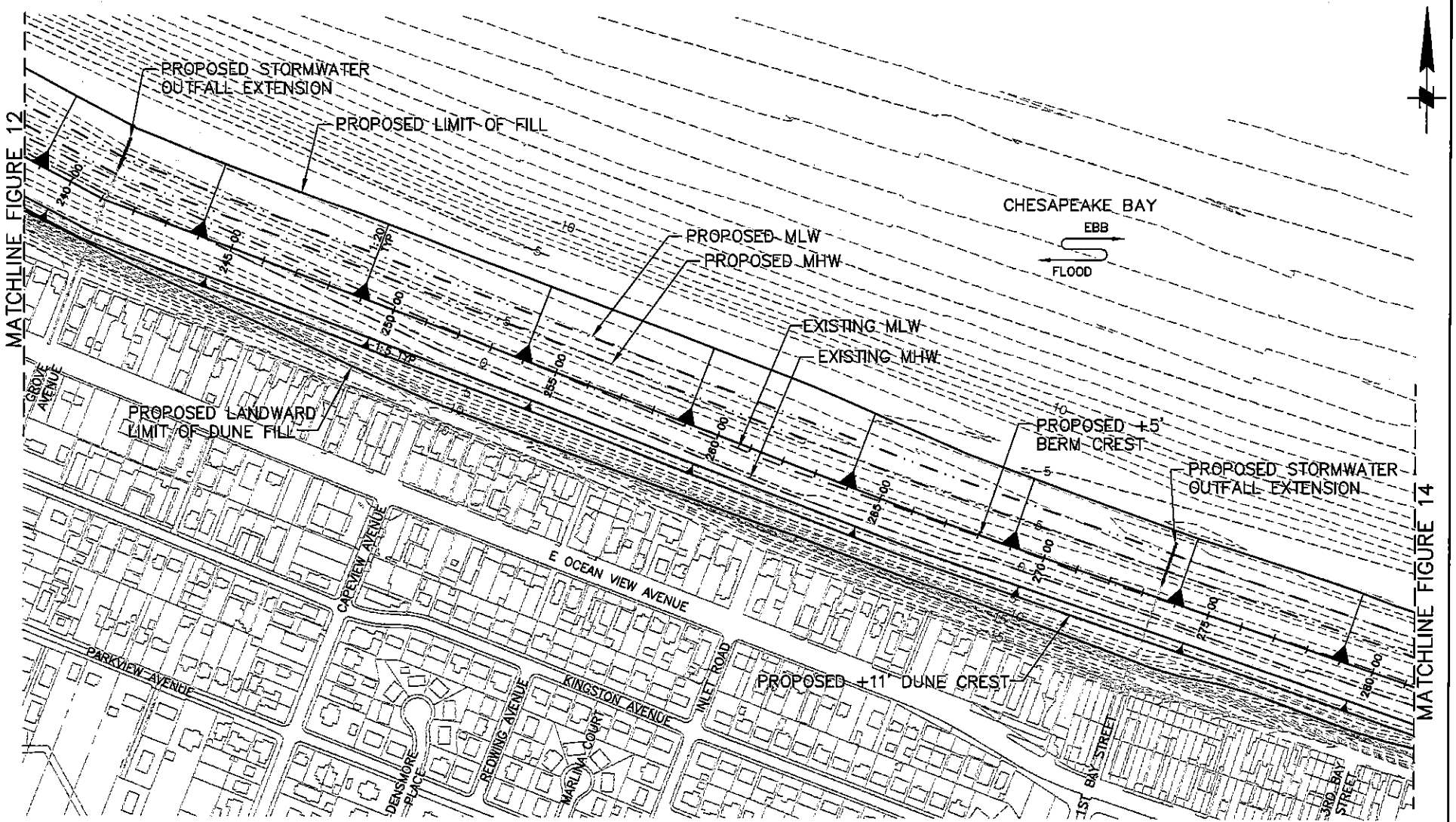

NOTES:
1. ALL ELEVATION DATA REFERENCED TO NAVD 88.
2. DATE OF SURVEY IS MARCH 2006.

FIGURE 13
BEACH NOURISHMENT AND STORMWATER OUTFALL EXTENSIONS DETAILED PLAN VIEW (8 OF 11)

400' 200' 0 400'
1"=400'

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Department of Public Works

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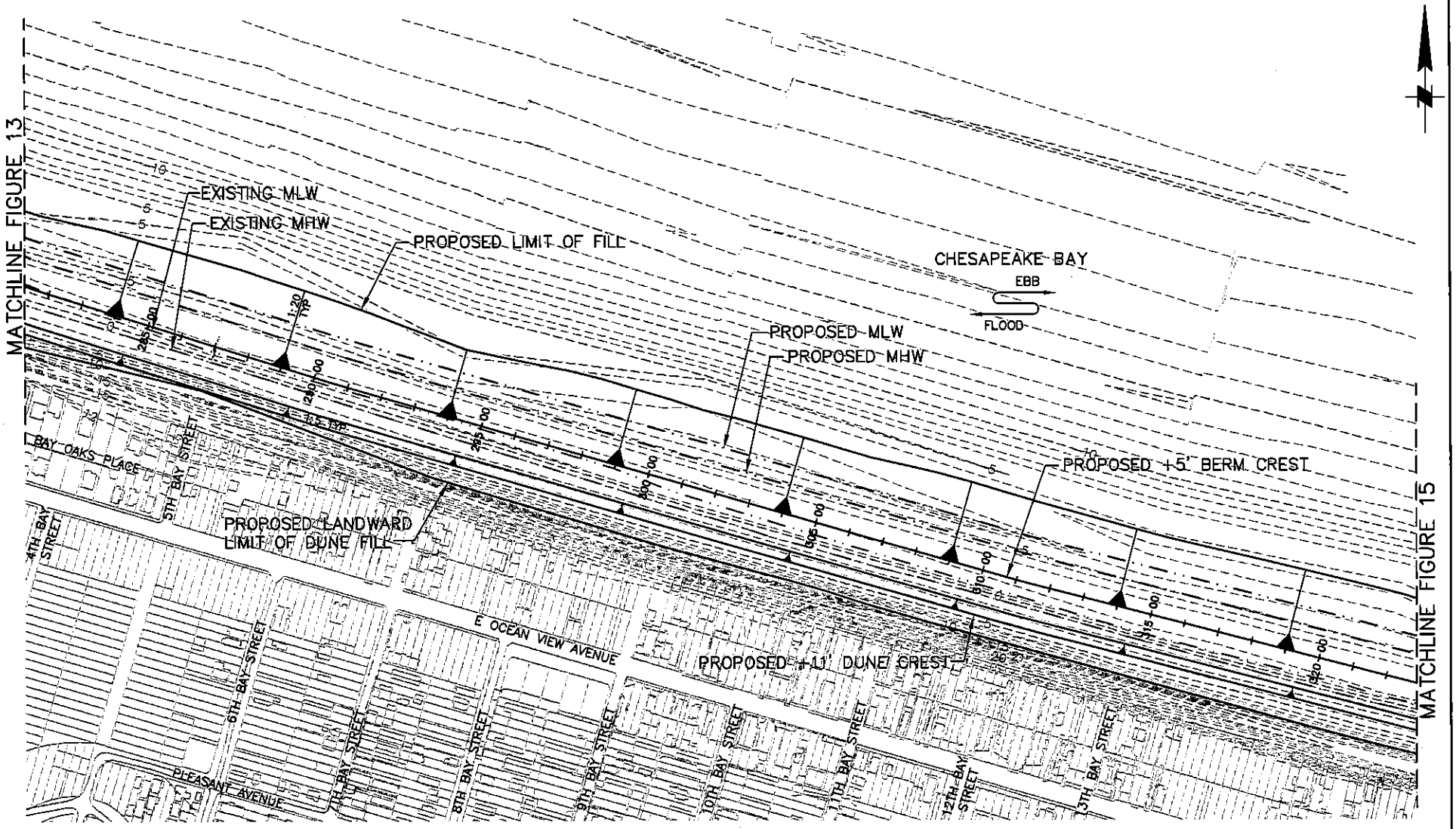

NOTES:
1. ALL ELEVATION DATA REFERENCED TO NAVD 88.
2. DATE OF SURVEY IS MARCH 2006.

FIGURE 14
BEACH NOURISHMENT AND STORMWATER OUTFALL EXTENSIONS
DETAILED PLAN VIEW (9 OF 11)

400' 200' 0 400'
1"=400'

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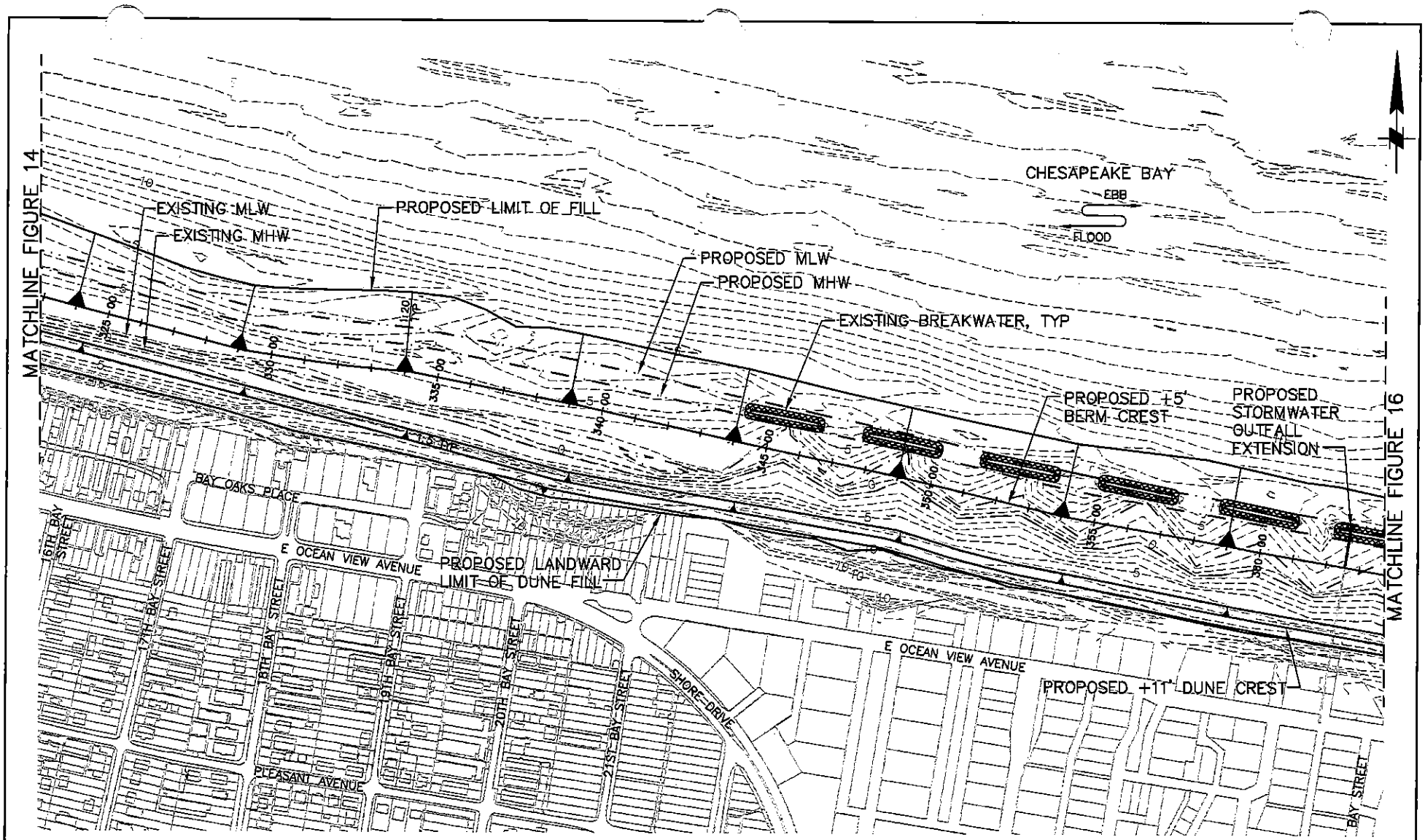
757-628-8



NOTES:
1. ALL ELEVATION DATA REFERENCED TO NAVD 88.
2. DATE OF SURVEY IS MARCH 2006.

FIGURE 15
BEACH NOURISHMENT AND STORMWATER OUTFALL EXTENSIONS DETAILED PLAN VIEW (10 OF 11)

400' 200' 0 400'
1"=400'

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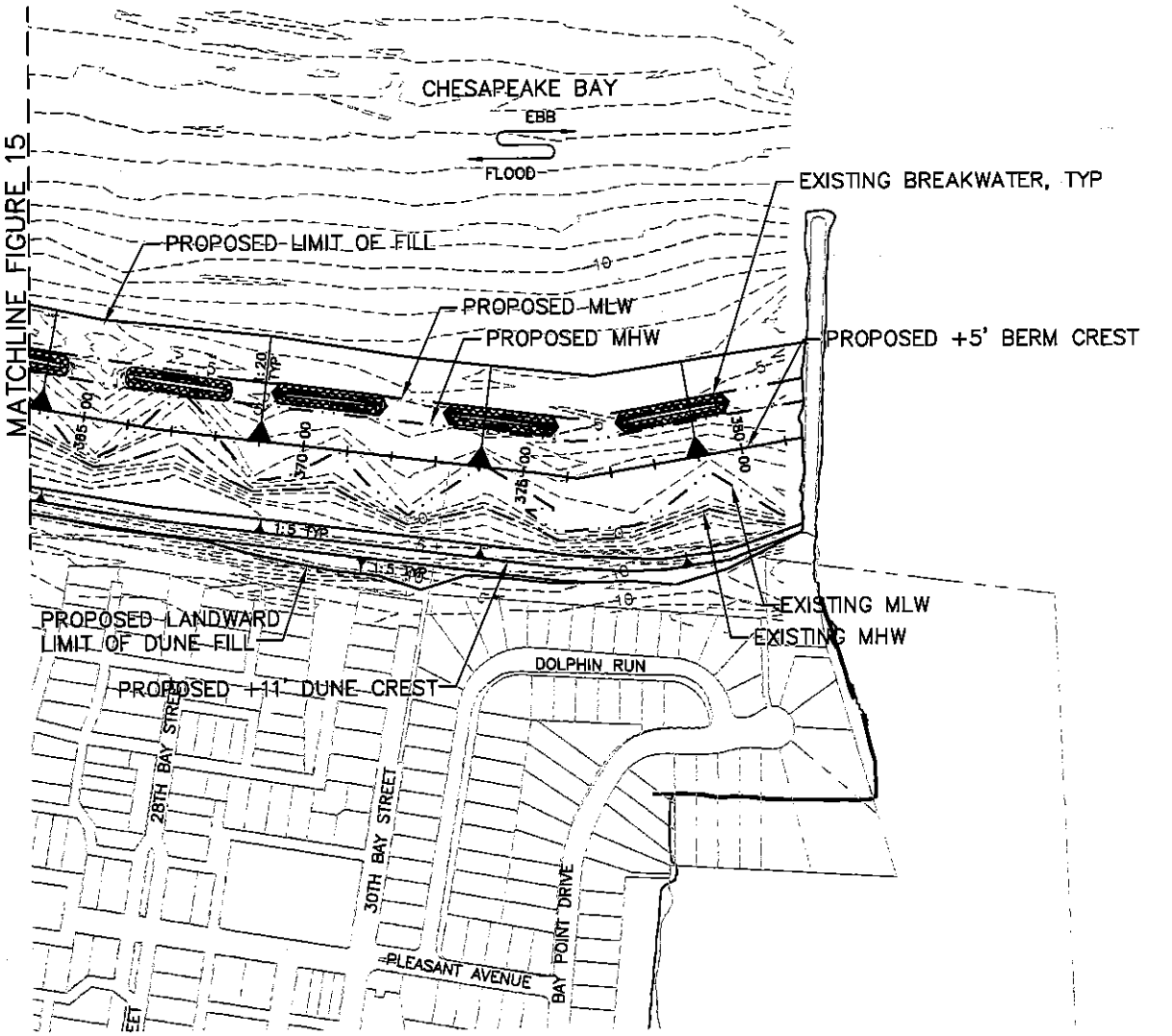

NOTES:
1. ALL ELEVATION DATA REFERENCED TO NAVD 88.
2. DATE OF SURVEY IS MARCH 2006.

FIGURE 16
BEACH NOURISHMENT AND STORMWATER OUTFALL EXTENSIONS
DETAILED PLAN VIEW (11 OF 11)

400' 200' 0 400'
1"=400'

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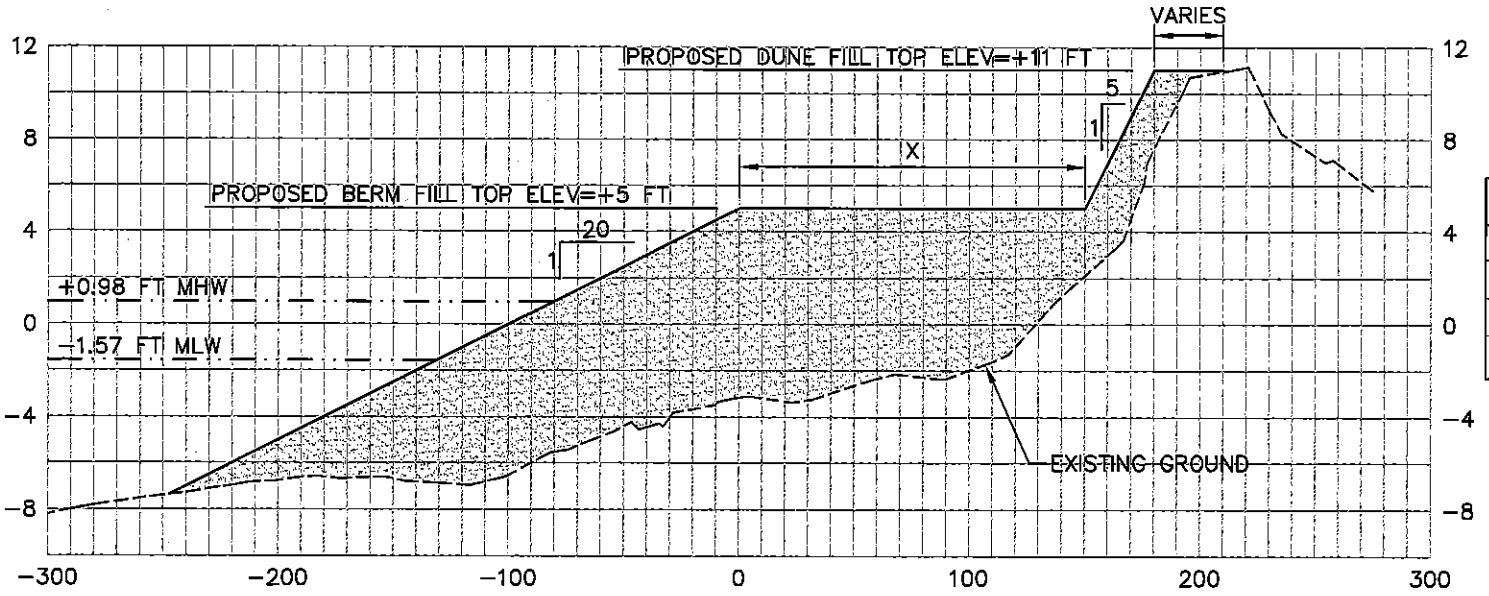
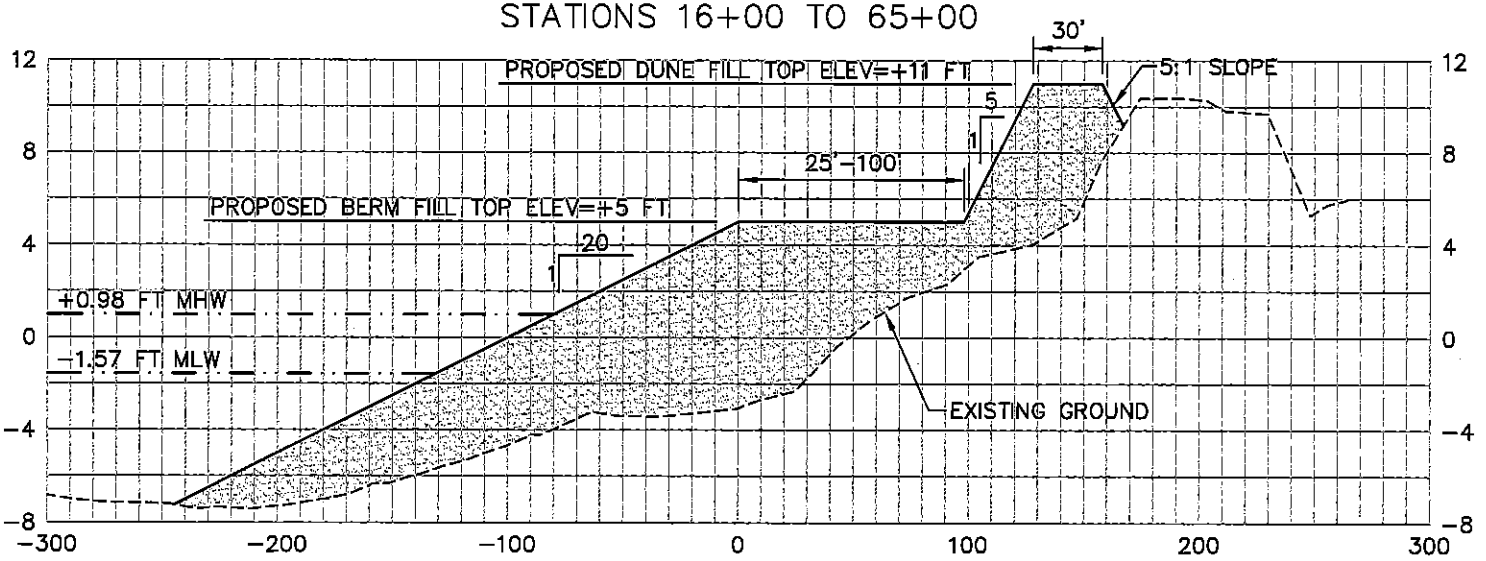


STATIONS 16+00 TO 65+00

STATION	X
16+00 TO 41+00	100'
41+00 TO 45+00	100'–150'
45+00 TO 49+00	150'
49+00 TO 65+00	75'–150'



STATIONS 0+00 TO 16+00

NOTES:
1. DIMENSIONS ABOVE ARE AVERAGES FOR EACH TYPICAL SECTION RANGE.
2. ENTIRE DUNE FACE TO BE STABILIZED WITH BEACH GRASS ON 1 TO 1.5 FT SPACING.

FIGURE 17
TYPICAL CROSS SECTIONS FOR BEACH NOURISHMENT PROJECT (1 OF 3)

80' 40' 0 80'
HORIZONTAL SCALE: 1"=80'

8' 4' 0 8'
VERTICAL SCALE: 1"=8'

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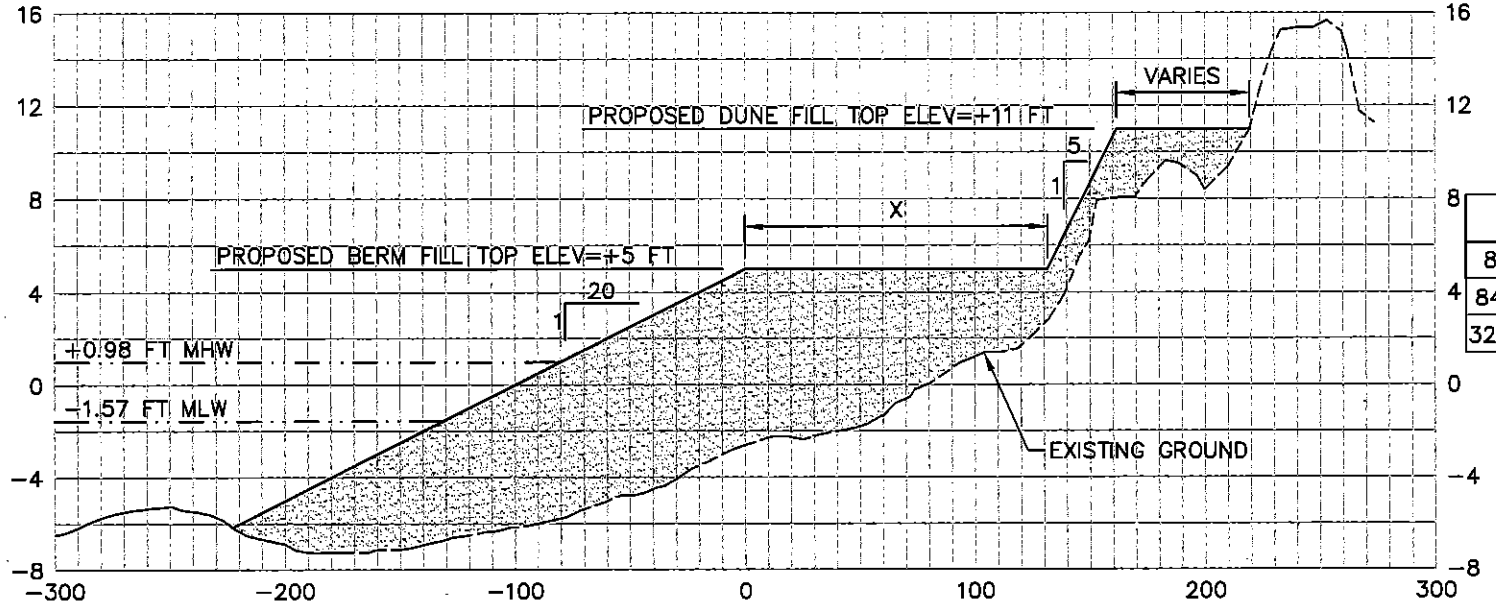
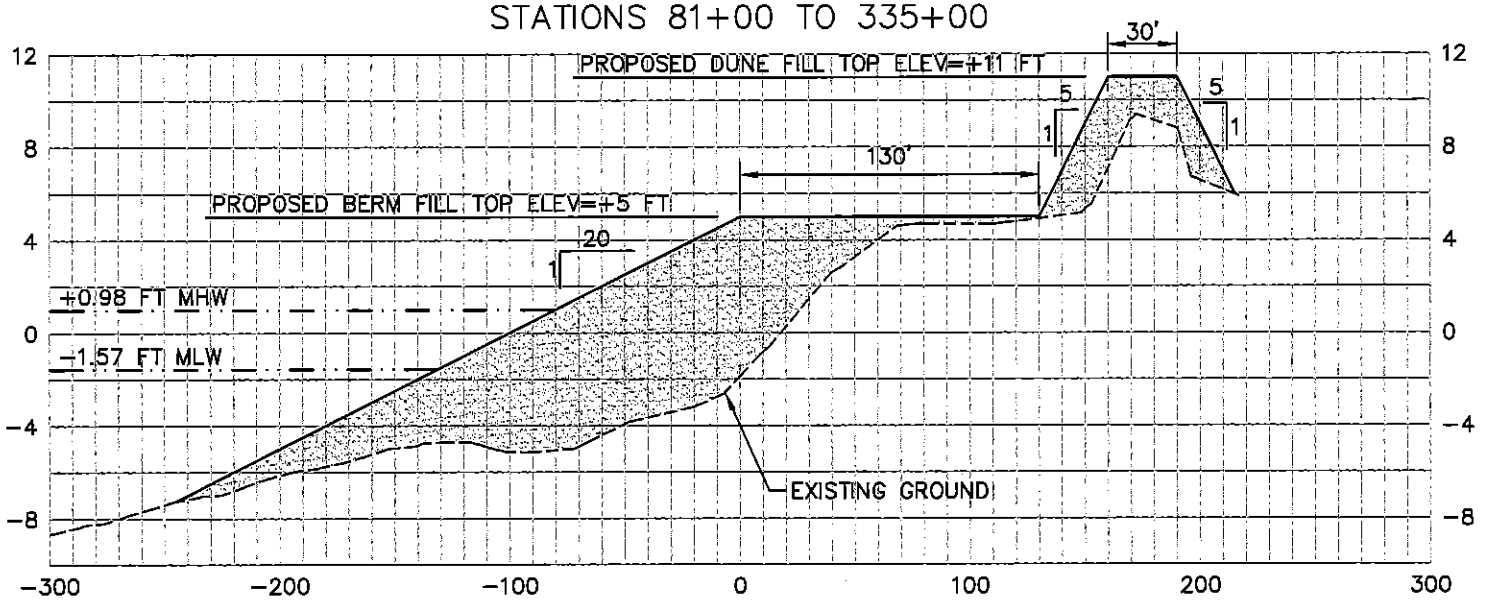


STATIONS 81+00 TO 335+00

STATION	X
81+00 TO 84+00	100'-130'
84+00 TO 329+00	100'
329+00 TO 335+00	100'-170'



STATIONS 65+00 to 81+00

NOTES:
1. DIMENSIONS ABOVE ARE AVERAGES FOR EACH TYPICAL SECTION RANGE.
2. ENTIRE DUNE FACE TO BE STABILIZED WITH BEACH GRASS ON 1 TO 1.5 FT SPACING.

80' 40' 0 80'
HORIZONTAL SCALE: 1"=80'

8' 4' 0 8'
VERTICAL SCALE: 1"=8'

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FIGURE 18
TYPICAL CROSS SECTIONS FOR BEACH NOURISHMENT PROJECT (2 OF 3)

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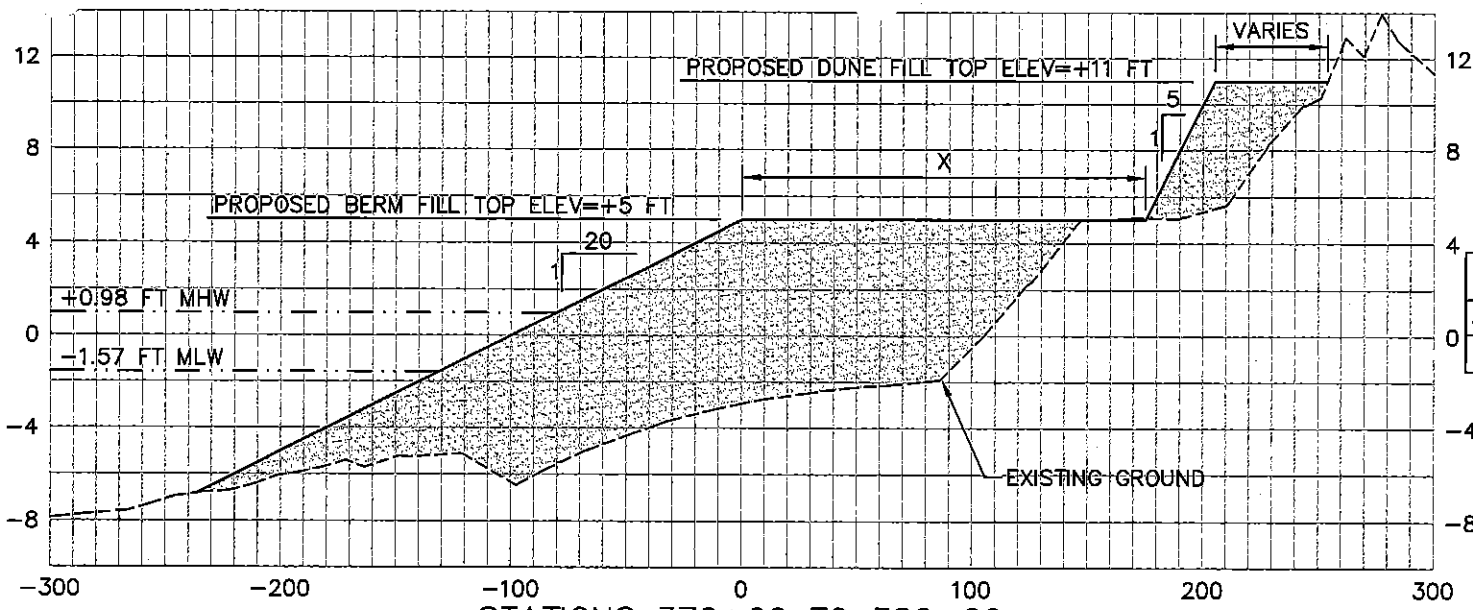
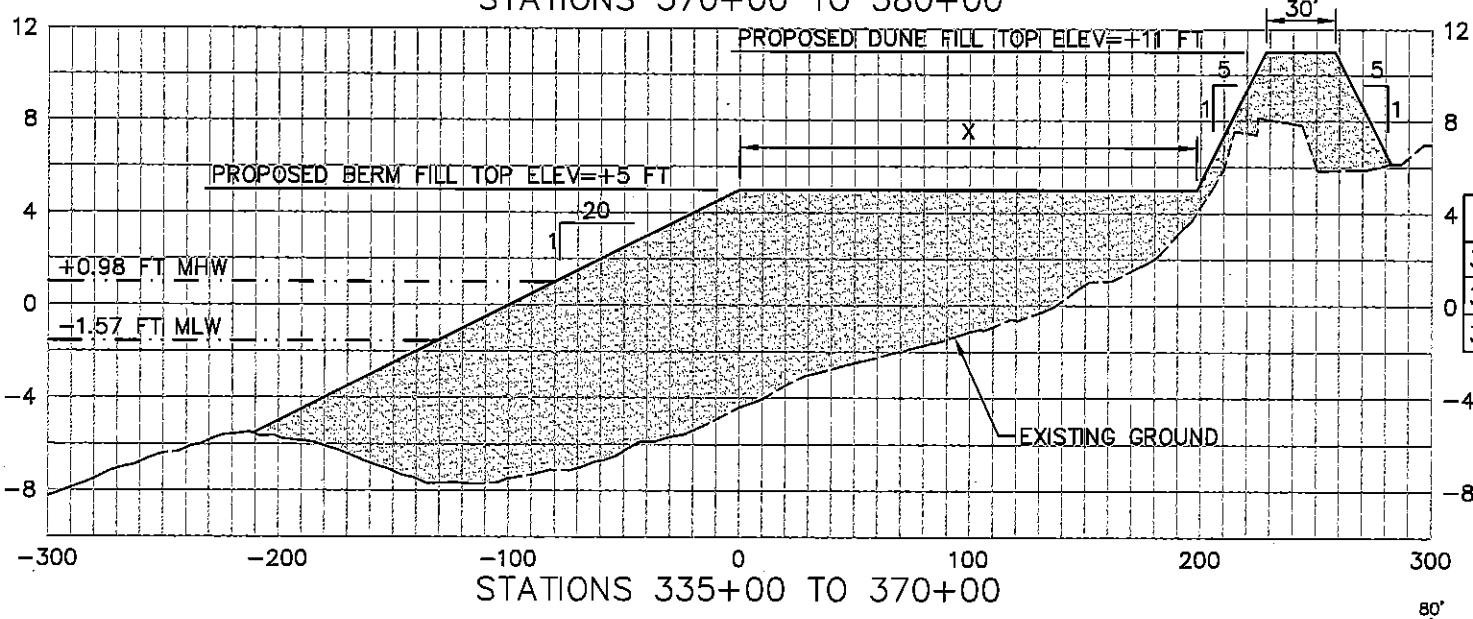


STATIONS 370+00 TO 380+00

STATION	X
370+00 TO 376+00	175'
376+00 TO 381+00	175'–215'



STATIONS 335+00 TO 370+00

STATION	X
335+00 TO 344+00	170'–195'
344+00 TO 357+00	155'–175'
357+00 TO 370+00	175'

NOTES:
1. DIMENSIONS ABOVE ARE AVERAGES FOR EACH TYPICAL SECTION RANGE.
2. ENTIRE DUNE FACE TO BE STABILIZED WITH BEACH GRASS ON 1 TO 1.5 FT SPACING.

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FIGURE 19
TYPICAL CROSS SECTIONS FOR BEACH NOURISHMENT PROJECT (3 OF 3)

80' 40' 0 80'
HORIZONTAL SCALE: 1"=80'

8' 4' 0 8'
VERTICAL SCALE: 1"=8'

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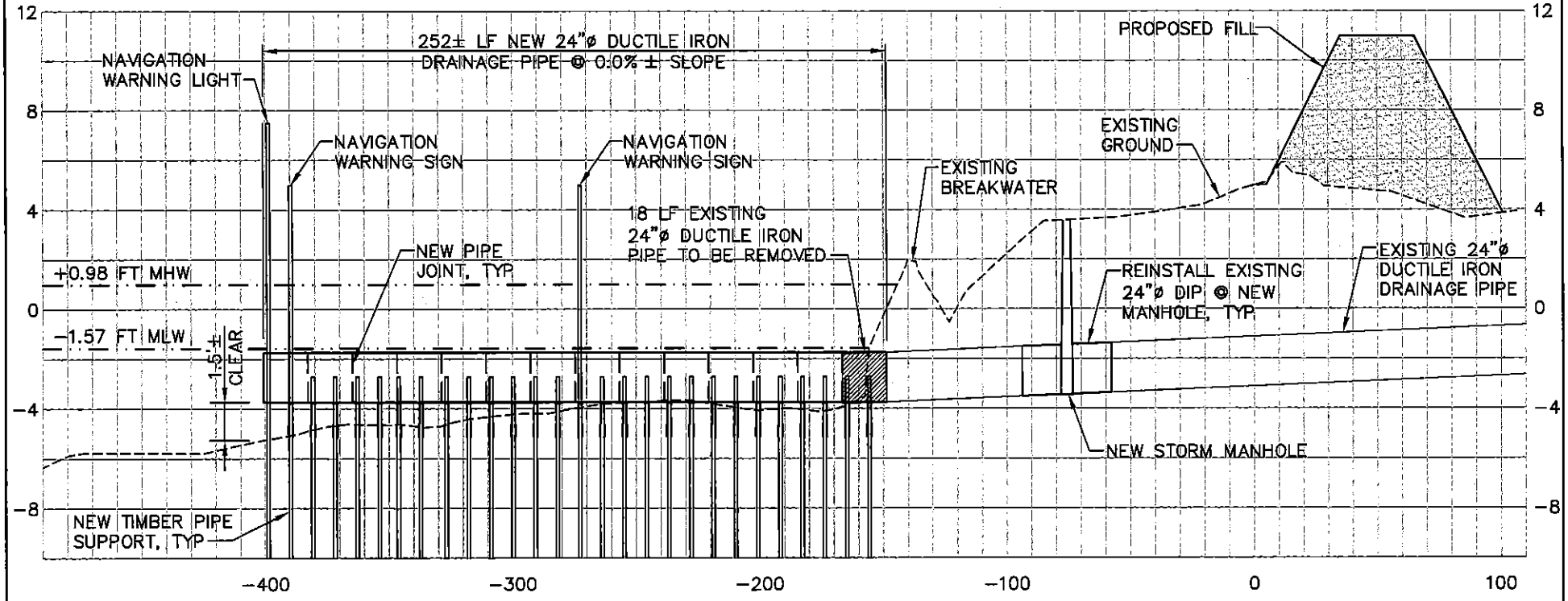

60' 30' 0 60'
HORIZONTAL SCALE: 1"=60'

6' 3' 0 6'
VERTICAL SCALE: 1"=6'

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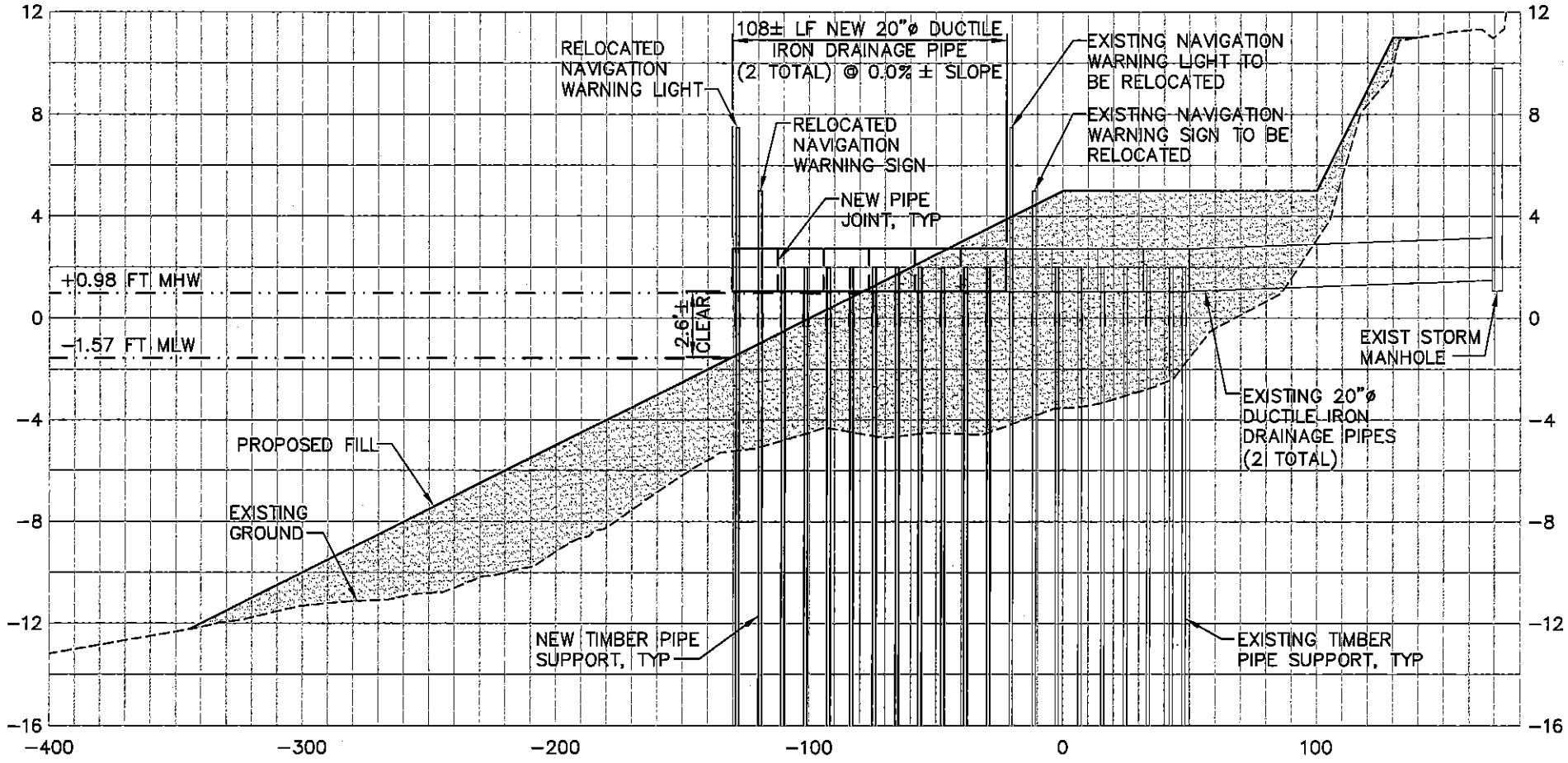
FIGURE 20
15TH VIEW STREET
STORMWATER OUTFALL EXTENSION

MOFFATT & NICHOL
440 WORLD TRADE CENTER
NORFOLK, VIRGINIA 23510
757-628-82[illegible]



60' 30' 0 60'
HORIZONTAL SCALE: 1"=60'

6' 3' 0 6'
VERTICAL SCALE: 1"=6'

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FIGURE 21
FIRST VIEW STREET
STORMWATER OUTFALL EXTENSION

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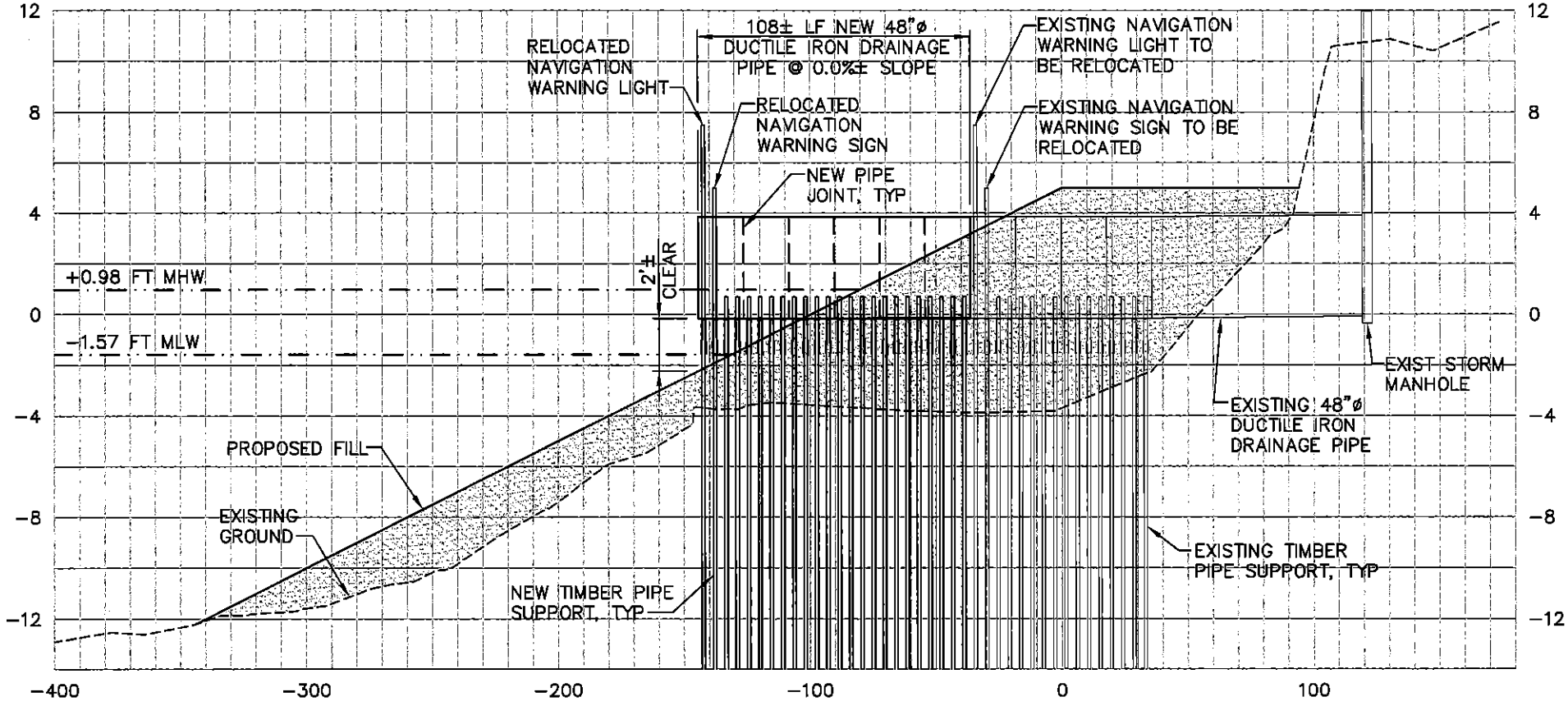

60' 30' 0 60'
HORIZONTAL SCALE: 1"=60'

6' 3' 0 6'
VERTICAL SCALE: 1"=6'

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FIGURE 22
OCEAN VIEW PARK
STORMWATER OUTFALL EXTENSION

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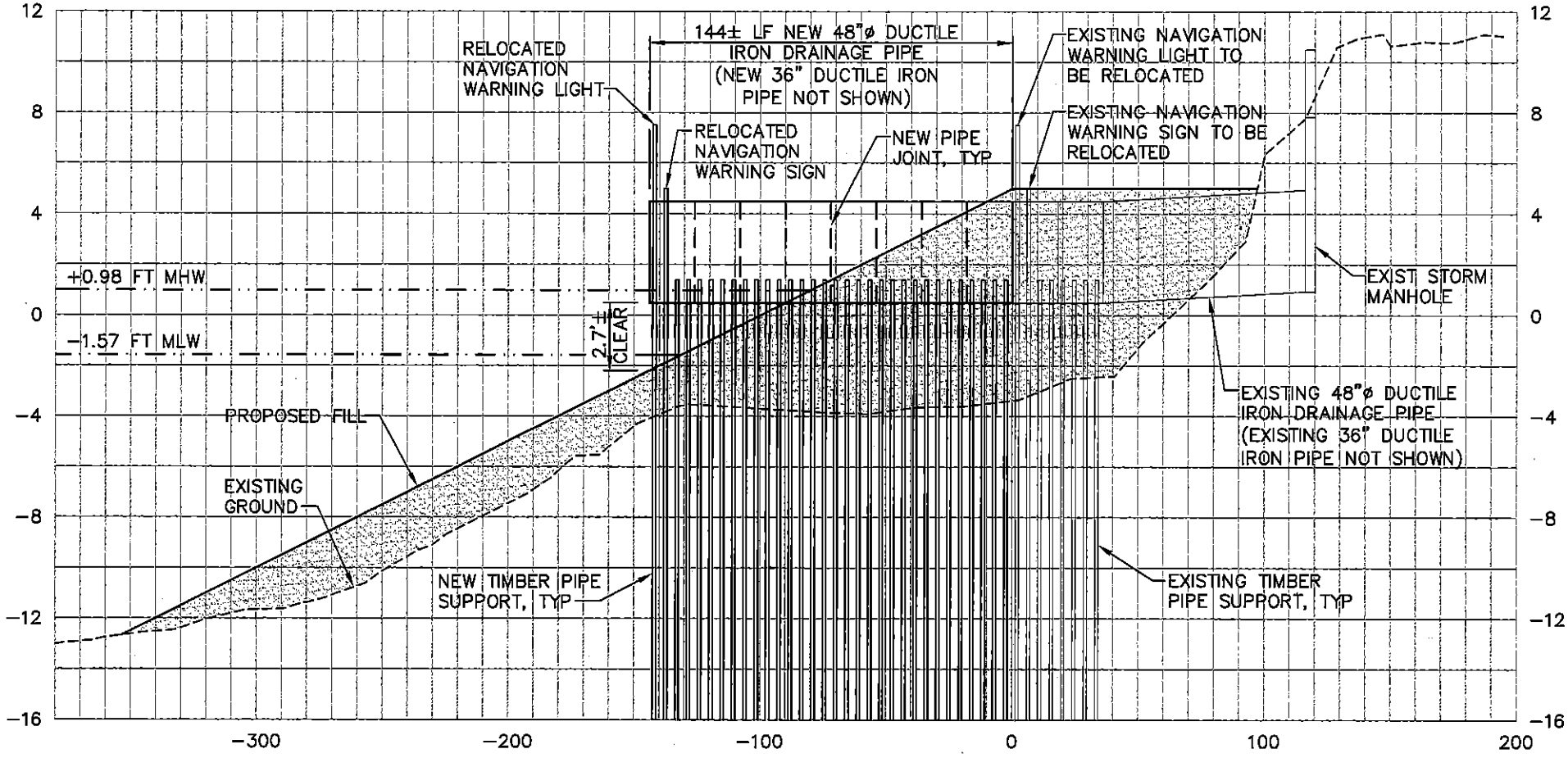

60' 30' 0 60'
HORIZONTAL SCALE: 1"=60'

6' 3' 0 6'
VERTICAL SCALE: 1"=6'

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FIGURE 23
WEST OF PINEWELL
STORMWATER OUTFALL EXTENSION

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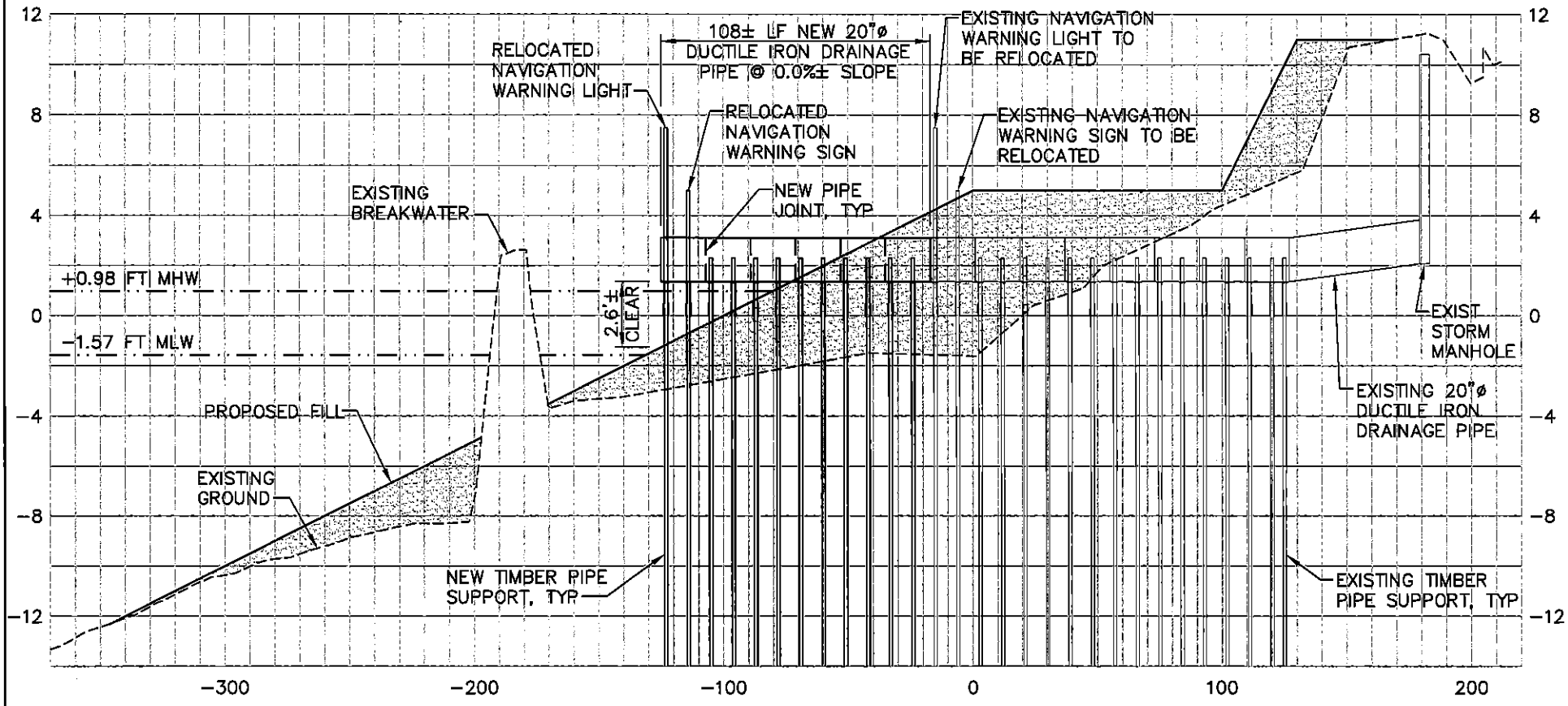

60' 30' 0 60'
HORIZONTAL SCALE: 1"=60'

6' 3' 0 6'
VERTICAL SCALE: 1"=6'

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FIGURE 24
ELNORA STREET
STORMWATER OUTFALL EXTENSION

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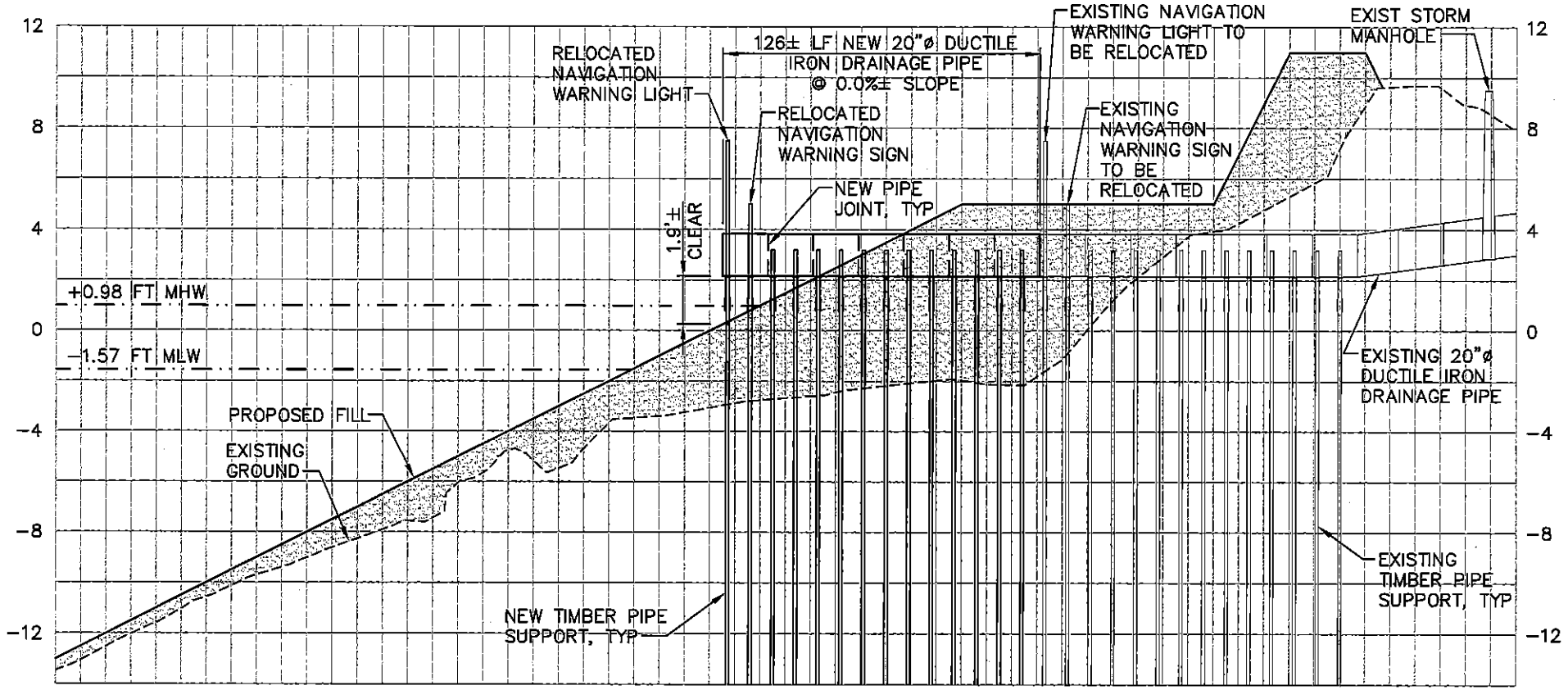
440 WORLD TRADE CENTER
NORFOLK, VIRGINIA 23510
757-628-82



60' 30' 0 60'
HORIZONTAL SCALE: 1"=60'

6' 3' 0 6'
VERTICAL SCALE: 1"=6'

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FIGURE 25
CHESAPEAKE STREET
STORMWATER OUTFALL EXTENSION

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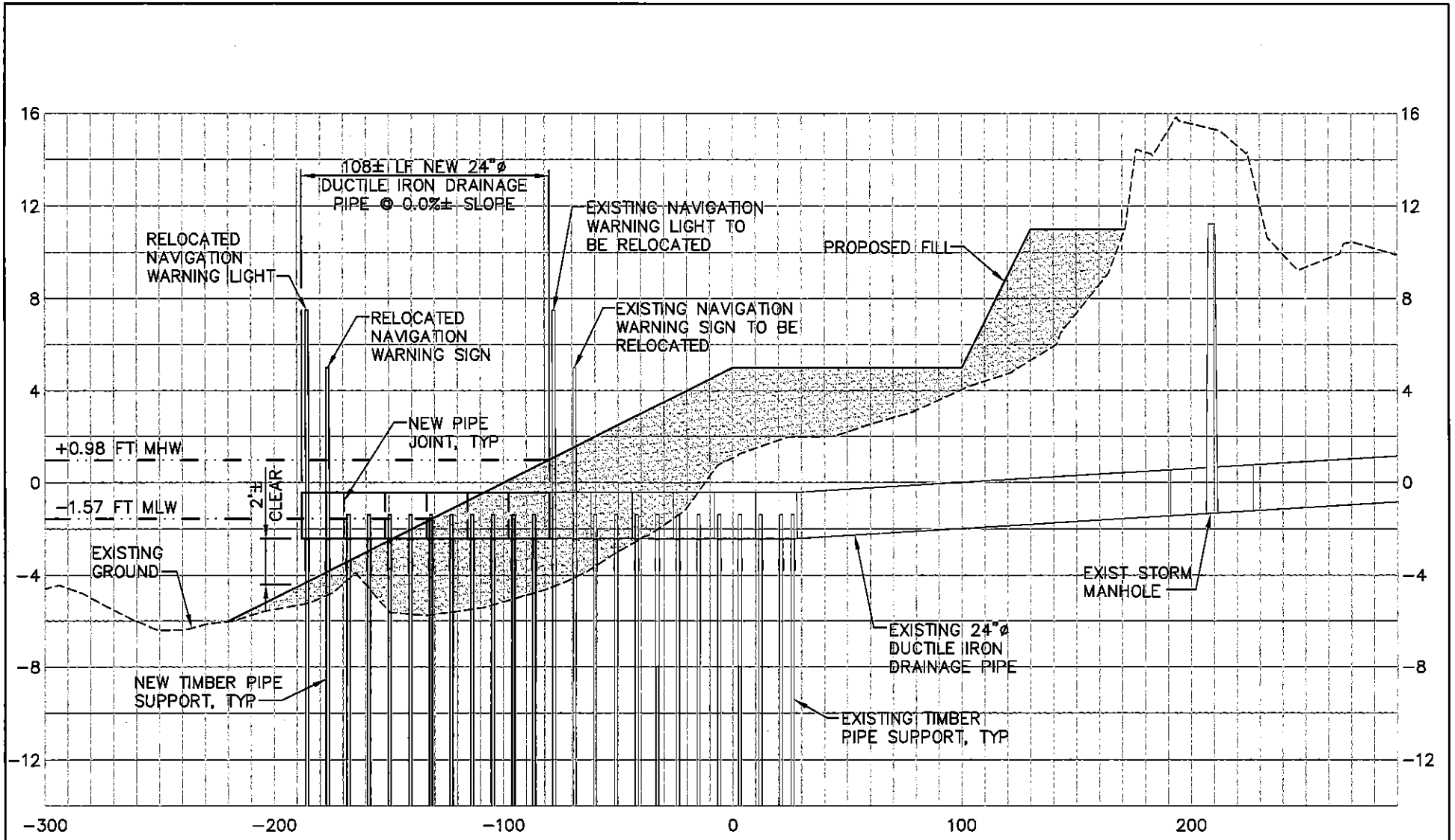

60' 30' 0 60'
HORIZONTAL SCALE: 1"=60'

6' 3' 0 6'
VERTICAL SCALE: 1"=6'

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FIGURE 26
BEAUMONT STREET
STORMWATER OUTFALL EXTENSION

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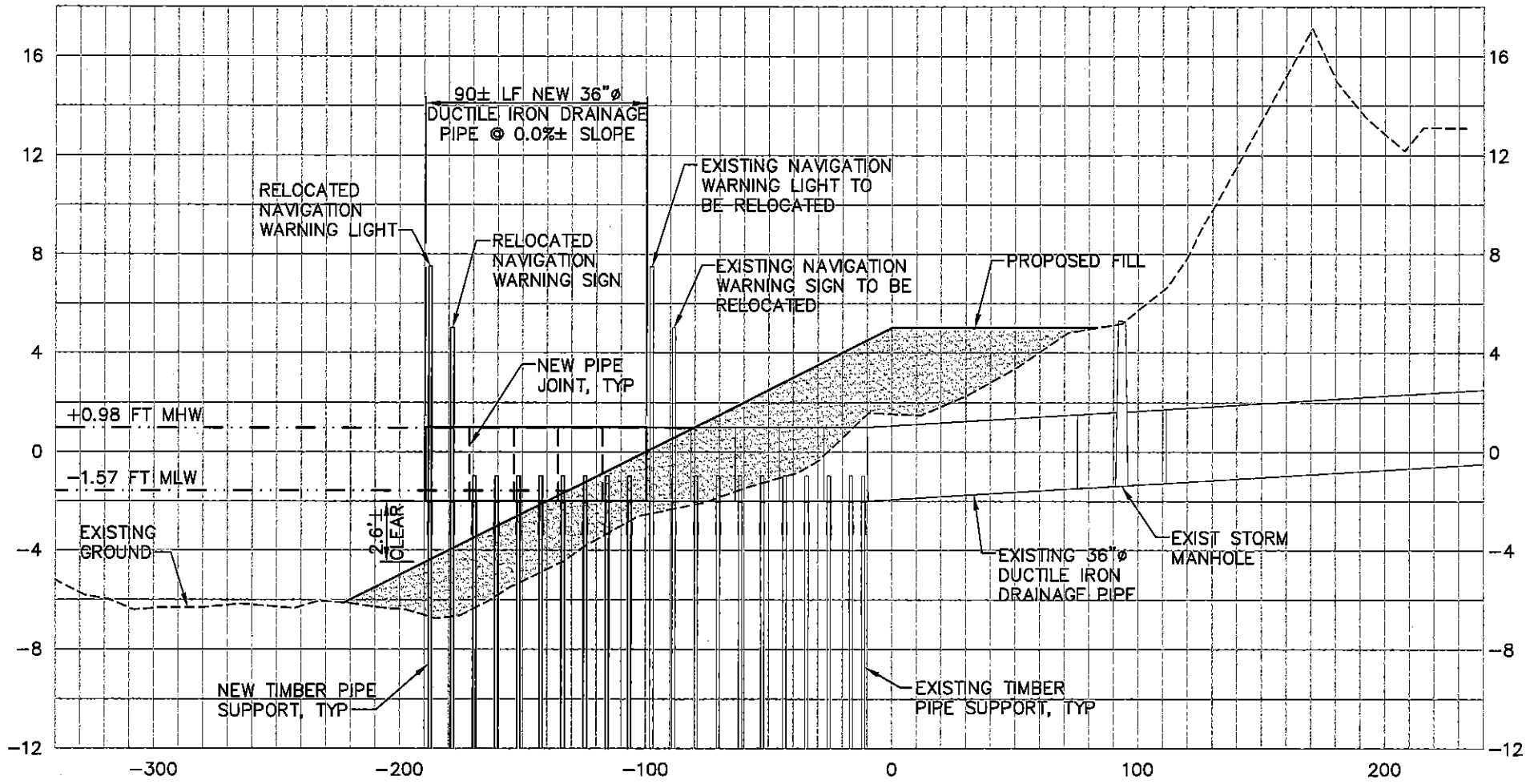

60' 30' 0 60'
HORIZONTAL SCALE: 1"=60'

6' 3' 0 6'
VERTICAL SCALE: 1"=6'

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FIGURE 27
GROVE AVENUE
STORMWATER OUTFALL EXTENSION

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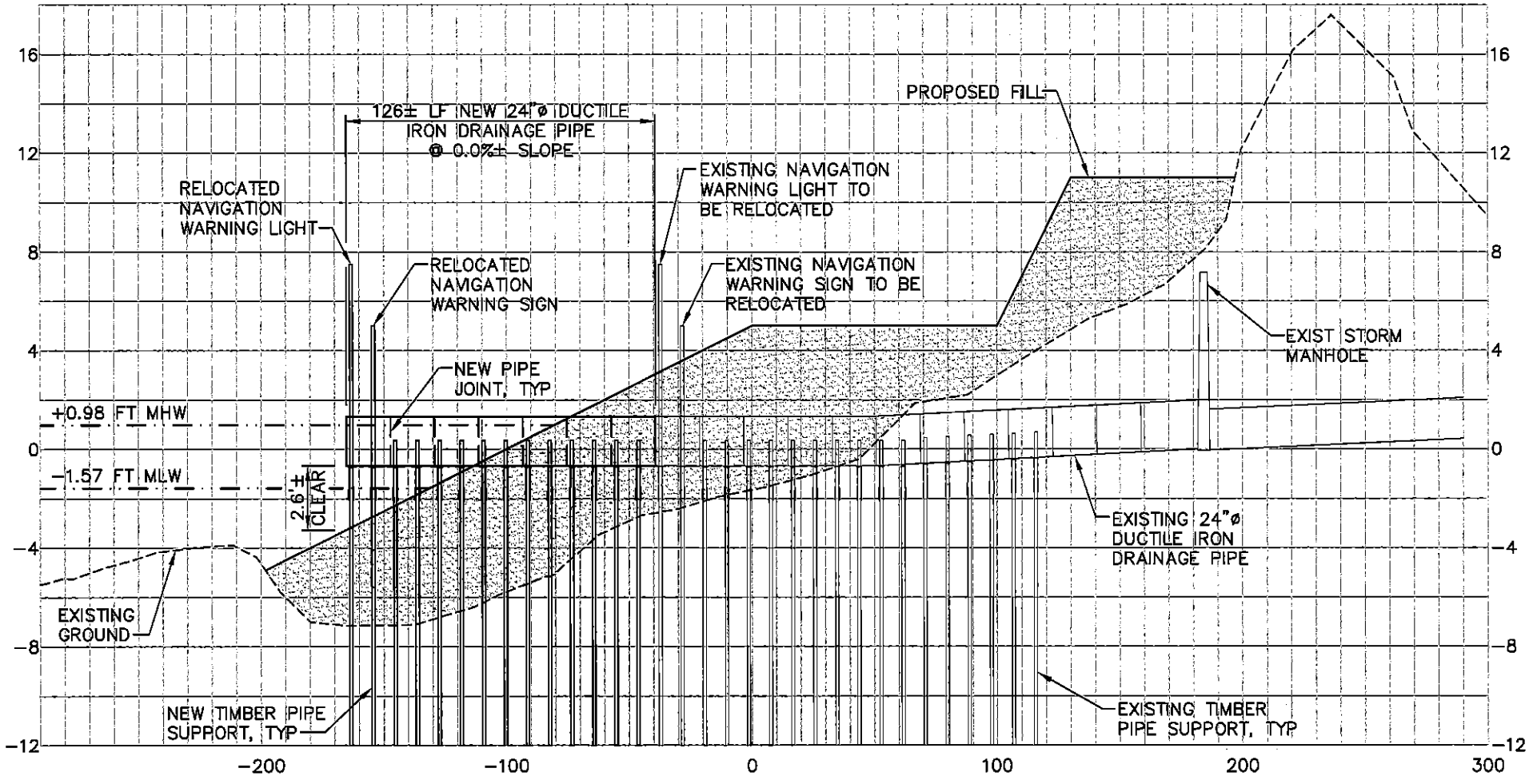

60' 30' 0 60'
HORIZONTAL SCALE: 1"=60'

6' 3' 0 6'
VERTICAL SCALE: 1"=6'

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FIGURE 28
1ST BAY STREET
STORMWATER OUTFALL EXTENSION

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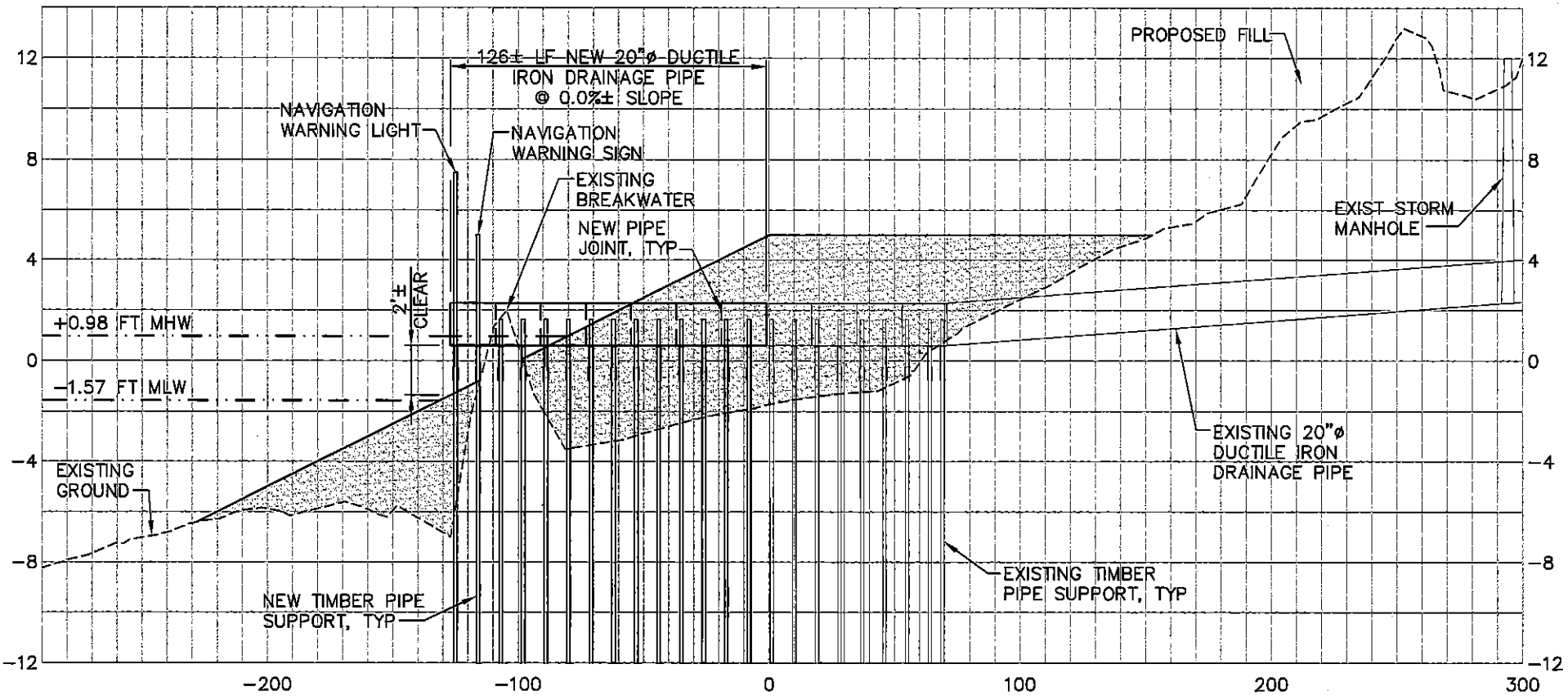

60' 30' 0 60'
HORIZONTAL SCALE: 1"=60'

6' 3' 0 6'
VERTICAL SCALE: 1"=6'

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FIGURE 29
27TH BAY STREET
STORMWATER OUTFALL EXTENSION

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